# XIII. *A Revision of the Subfamily Libellulinæ, with Descriptions of New Genera and Species. By* W. F. Kirby, *F.E.S., Assistant in the Zoological Department, British Museum.*

Received March 26th, 1887, read May 17th, 1887.

[Plates LI.–LVII.]

Contents.

| | Page |
|---|---|
| Part I. Introductory Remarks | 249 |
| Characters of Libellulinæ | 250 |
| *a.* Head | 251 |
| Eyes | 251 |
| Frontal tubercle | 251 |
| *b.* Thorax | 251 |
| *c.* Legs | 251 |
| *d.* Fore wings | 252 |
| *e.* Hind wings | 254 |
| *f.* Abdomen | 255 |
| *g.* Abdominal appendages | 256 |
| Appendages of the second segment | 256 |
| Appendages of the eighth segment | 256 |
| Anal appendages | 257 |
| Part II. Table of Genera | 257 |
| Part III. Characters of Genera | 265 |
| Part IV. Descriptions of New Species | 314 |
| Explanation of the Plates | 345 |

## PART I.

## Introductory Remarks.

I HAVE lately been occupied in arranging the collection of Odonata in the British Museum, a task which has only been partially attempted before, at long intervals; and, while thus engaged, I have found it absolutely necessary to revise the large and important subfamily Libellulinæ. All the other subfamilies of Odonata have been monographed by Baron Selys-Longchamps, with the exception of the Æshninæ, on which he is now engaged. For the arrangement of the Libellulinæ our chief guides are Dr. Brauer's tables and characters of genera and lists of species published in the 'Verhandlungen der k.-k. zoologisch-botanischen Gesellschaft in Wien,' vol. xviii. (1868), pp. 364–369 and 711–737. Of course there are local faunæ and detached papers of great importance; but Brauer's is the only compendium of the subfamily which has hitherto appeared subsequently to Rambur's general work on the Neuroptera, published in 1842. The amount of material in the British Museum is very large in this subfamily, including types of nearly all the described genera; and it was at once obvious that several genera as heretofore employed included two or more natural and easily separable groups, while others, though separated by authors, had less claim to be considered distinct. In the present paper I have attempted to describe all the genera after a uniform system, freely describing both genera and species as new whenever I considered that I had sufficient material. Nothing makes the study of any group more difficult than the existence of a large number of undescribed (or, worse still, manuscript) species in collections, which will not fit into the arrangement. But although I have in some rare instances ventured to describe well-marked species and even genera from single specimens, I have always refrained from describing any form respecting which my materials appeared to be too scanty to be conveniently utilized at present. I believe that all my new species will prove to be easily recognizable by the characters which I have given, and my descriptions are in most cases taken from a long series of specimens.

In 1868 Brauer admitted forty genera of Libellulinæ, placing them in the following order:—*Zyxomma*, *Tholymis*, *Pantala*, *Tramea*, *Rhyothemis*, *Diastatops*, *Palpopleura*, *Neurothemis*, *Celithemis*, *Perithemis*, *Leucorhinia*, *Diplox* (= *Sympetrum*), *Mesothemis*, *Pachydiplax*, *Erythrodiplax*, *Erythemis*, *Lepthemis*, *Acisoma*, *Microthemis*, *Brachydiplax*, *Nannodiplax*, *Nannophya*, *Nannodythemis*, *Nannothemis*, *Tetrathenis*, *Uracis*, *Lyriothemis*, *Agrionoptera*, *Orthemis*, *Libellula*, *Libella* (= *Orthetrum*), *Onychothemis*, *Diplacina*, *Dythemis*, *Macrothemis*, *Trithemis*, *Brachythemis*, *Crocothemis*, *Macrodiplax*, and *Urothemis*.

In the present paper I have characterized 88 genera (of which 40 are new) and 42 new species.

## CHARACTERS OF LIBELLULINÆ.

There is a great variety of character in Odonata; and I have selected the neuration as on the whole the most satisfactory guide. It will therefore be desirable to give a sketch of its principal features, and more briefly to notice one or two other characters of which I have made occasional use. But I must first say something of the general characters of the Libellulinæ, as distinguished from the other groups of Odonata.

## Subfamily LIBELLULINÆ.

Eyes large, little if at all expanded behind; first antenodal nervure of the fore wings not always continuous; nodal sector frequently undulated beyond the middle; hind wings rounded at the anal angle in both sexes; triangles of the fore and hind wings differing in shape.

The Libellulidæ are easily to be distinguished from all the other families of Odonata by the large contiguous eyes and by the difference in shape between the triangles of the fore and hind wings; the apex of the triangle of the fore wings is generally pointed downwards, and that of the hind wings outwards. It is sometimes harder to distinguish between the subfamilies Corduliinæ and Libellulinæ, the characters of which are not always very salient. In the Corduliinæ, however, the eyes have a slight horny tubercle behind, the triangles are generally wider, less regular, and often free, the sectors of the arculus are often completely separated, the last antenodal cross-nervure is always continuous; there is only a small number of postnodal nervures; the nodal sector is never undulated beyond the middle, and the males usually have the anal angle of the wings angulated, and the anal appendages of the abdomen more prominent. But notwithstanding all this, the Libellulinæ and Corduliinæ are more easily distinguished by their general facies than by any decisive characters which have yet been laid down; and I doubt whether the boundaries between the two subfamilies have yet been very clearly defined. I have therefore restricted myself to the discussion of genera which appear to be undoubtedly Libellulinæ, more especially as the Corduliinæ are rather poorly represented in the British Museum at present.

### *a.* HEAD.

*Eyes.*—These are very large in the Libellulinæ, covering the sides of the head. They are very rarely separated (*Diastatops*), but in many genera they only touch each other on the crown of the head. In *Zyxomma* they are connected by a suture for nearly their whole length; and in a few other instances they are connected by a shorter, but still a considerable, portion of their length (*Pantala*, *Tramea*, &c.).

*Frontal tubercle.*—Between the eyes and the ocelli rises a protuberance, which may be either convex, truncated, concave, or even bifid on the summit. Its shape is frequently of generic value.

### *b.* THORAX.

Dr. Brauer lays stress on the shape of the hinder lobes of the prothorax, a character which I have not used in the present paper. In one or two genera (*Nephepeltia* and *Raphismia*) we find simple or forked appendages springing from the metasternum.

### *c.* LEGS.

I have employed the claws of the tarsi—which are sometimes bifid (*Macrothemis*) or sometimes simple (*Onychothemis*), but more frequently toothed distinctly below the tip—as an occasional character. The spines of the hind tarsi are sometimes important; thus in *Lepthemis* and *Mesothemis* they are armed with a double row of a few very strong spines, instead of a larger number of more slender ones.

### *d.* The Fore Wings.

These are very important organs in the classification of Odonata. The first point of interest on the costa is a notch about the middle of the wing, called the nodus, from which descends a thick nervure which divides the costal region into two halves perpendicularly. The upper part of the space between the base and the nodus is again divided longitudinally into the upper and lower antenodal costal spaces by a nervure which does not extend beyond the nodus, and has been called the internodal radius; it appears to me to correspond to the so-called "costal nervure" in *Papilio*, and would be better so designated. Between the base and the nodus are the antenodal cross nervures, varying in number from five to upwards of thirty, according to the genus and species. These generally cross both spaces, although those on opposite sides of the costal nervure do not always exactly coincide; but in many genera the last crosses the first space only, leaving the second empty below it. This character, though perfectly constant in some genera, is variable in others, and must therefore be used with caution. When the last cross nervure is not continuous it is often very oblique. I have only seen two specimens in which the first two nervures on one side were discontinuous, and I have seen no Corduliinæ in which the last antenodal cross-nervure was not continuous. When the cross nervures are very numerous and crowded they occasionally become **Y**-shaped, **V**-shaped, or anastomosed. An extra cross nervure is not unfrequently interposed between two others on either the upper or lower space, and not continued on the other. The lower antenodal subcostal space is bounded below by a nervure which runs from the base to the apex of the wing, and which is usually called the principal radius, but which would be more correctly termed the subcostal nervure. Towards the apex of the wing is an opaque spot, usually of an oblong form, bounded by two thick nervures of a darker colour than itself, and called the pterostigma. The space between the nodus and the pterostigma is the upper postnodal costal space, and is likewise traversed by cross nervures, one or more at the commencement of which are always discontinuous in the Libellulinæ. Returning to the base, we come next to the upper basal cell, a rather broad space below the subcostal nervure, which is never divided by nervures in any species of Libellulinæ. It much resembles the discoidal cell of Lepidoptera, to which (or perhaps rather to the upper part of which, as Mr. C. O. Waterhouse has suggested) it evidently corresponds. The upper basal cell is bounded on the outside by an oblique cross nervure called the arculus[1]. On the opposite side rise two nervures called the sectors of the arculus. They generally rise in a stalk from the arculus at or near its lower extremity, but sometimes diverge from a point at or close to their origin; they are rarely, if ever, so completely separated at the base as is the case in many species of Corduliinæ. The upper sector of the arculus curves round to the hind margin; the lower sector falls at or near the outer angle of the triangle (of which we shall speak presently), and then runs subparallel to the upper sector.

---

[1] This nervure really corresponds with the upper discocellular nervule in Lepidoptera. I have retained the name arculus, which is used by Selys-Longchamps, Hagen, Brauer, &c., because it is necessary to have a short and convenient term for it. In Charpentier's terminology, however, the term arculus seems to be applied to the short basal curve of the lower sector of the arculus, and to this the term arculus really applies much better than to the former.

Before the upper sector of the arculus reaches the level of the nodus, it throws off two nervures, rising in a stalk from its upper surface. The upper nervure runs upwards, and passes below the nodus and pterostigma to the extremity of the wing, parallel with the subcostal nervure; it may be called the subcostal radius; and the space beyond the nodus between this and the subcostal nervure forms the lower postnodal costal space. This space is always more or less free from cross nervures at the base, and the postnodal cross nervures are never so regular in the lower space as in the upper, and are not unfrequently bisected beyond the level of the pterostigma, rarely before.

The thick nervure (or nodal cross nervure) descending from the nodus curves a little outwards, crosses the subcostal nervure, and falls on the subnodal sector, which rises from the same stalk as the subcostal radius; it, however, throws off or, rather, is continued in a slender nervure (the nodal sector) to the hind margin; and it sometimes throws off a second short branch below, near its origin, to the subnodal sector.

The nodal sector is sometimes nearly straight at its base, but more frequently a little undulated or curved downwards; it then runs forwards nearly straight, or is arched a little at or before the middle, and at its extremity curves downwards towards the hind margin. But in several important genera (*Orthetrum*, *Leptetrum*, *Orthemis*, &c.) beyond the arch near the middle, or without forming a distinct arch, it again dips downwards in a long and sometimes rather deep curve, another alary peculiarity which I have not observed in any Corduliinæ. The subnodal sector follows the course of the nodal sector to a certain extent, but is always straighter, rarely following the course of the arch. There is generally a single row of cells between (broadest, of course, beneath the arch); but these are usually bisected towards the hind margin, occasionally increasing to three or even four rows of cells before reaching it.

Below the upper basal cell lies the lower basal cell, a long narrow space extending considerably beyond the other, and ending more or less acutely at the base of the triangle; it is generally crossed by a single nervure before the middle; in several genera, however, it is crossed by more than one, though less frequently than the lower basal cell of the hind wings.

In many genera one or, rarely, more cross nervures descend from the lower sector of the arculus to the lower basal cell, or to the base of the triangle; these are called supratriangular nervures.

We now come to one of the most important features in the wings of Odonata—the triangle. The base lies between the extremity of the lower basal cell and the lower sector of the arculus, and is usually more or less oblique.

In some genera containing small species it happens either constantly (*Nannophya* &c.), or as an individual peculiarity (*Diplacodes* and *Raphismia*), that the lower sector of the arculus falls on the base of the triangle before its extremity. It then usually happens that the base rises in a right angle, with more or less equal sides, to meet it, thus converting the triangle into a trapezium.

In less aberrant genera the triangle generally forms nearly an isosceles triangle, with its apex pointing downwards, but varies considerably in size and shape. It is either empty or crossed by a single nervure (sometimes by more), and in rare cases is reticulated.

From the apex of the triangle (or occasionally above it, as in *Nannodythemis* &c.) another nervure curves to the hind margin. This is the upper sector of the triangle. Below this is the lower sector, which is nearly always very irregular, and sometimes very short. Beyond the triangle, between the lower sector of the arculus and the upper sector of the triangle, is a series of cells, the posttriangular cells, which vary from one to twelve at the base, and often increase considerably in number towards the hind margin. Three may be considered the normal number towards the base, and the middle cells are usually more or less hexagonal. It is not uncommon for the first row of cells beyond the triangle to consist of one cell more than those which immediately follow it.

From the apex of the triangle, or from a point just below it, a line runs obliquely upwards towards the base, which is united with the nervure above by one of the straight or oblique lines descending from the lower basal cell. This may conveniently be called the subtriangular space; it is sometimes open, but is more frequently divided into a number of cells, most often three, but frequently two, four, five, and upwards. At the base of the inner margin is an opaque space called the membranule, which is usually very small on the fore wings.

I have not attempted to use the various slender and incomplete intermediate sectors in various parts of the wings for classification, and I believe that the space between the base and the subtriangular space presents no characters of any importance.

The neuration in Odonata is so complicated that the real difficulty is rather to select the characters which are of real value than to discover characters which might be employed.

### *e.* The Hind Wings.

In the main the neuration of the hind wings is a repetition of that of the fore wings, as far as the upper basal cell. The cross nervures are generally less numerous. The last antenodal cross nervure is always continuous, except as a rare anomaly in *Leptetrum* and one or two allied genera. When we come to the triangle, however, we find that its base is usually formed by the continuation of the arculus, and that its apex is directed outwards, lying at the angle formed by the lower sector of the arculus. Occasionally (*Agrionoptera* &c.) the base lies far beyond the arculus, rendering the triangle very small. The triangle is far less frequently traversed by a nervure than that of the fore wings; and when it is traversed, a supratriangular nervure is most frequently likewise present. The lower basal cell, the extremity of which forms the base of the triangle, is much broader and shorter than on the front wings. In one or two small genera with aberrant neuration (*Nannodythemis* &c.) the triangle of the hind wings is replaced by a trapezium. The hind wings are nearly always broader than the fore wings, and the neuration of their lower portion is dissimilar. There is nothing properly corresponding to the subtriangular space [1], but the lower sector of the triangle is generally much better developed, and rises with the upper sector of the triangle from the lower angle of the triangle. It runs subparallel with the upper sector, but is rather more irregular. It varies slightly in position, and in some genera (*Mesothemis*, *Lepthemis*, &c.) the sectors of the triangle are not united at their base, and in *Nannodythemis* the nervure corresponding to the upper sector actually starts from the middle of the triangle (or rather trapezium), and the lower starts from the lower angle of the triangle [2]. In species with normal neuration two more sectors descend from the lower basal cell, the innermost a little before the middle from or near the normal cross nervure, and the outermost a cell beyond. These curve outwards below the basal portion of the lower sector of the triangle, and then suddenly curve away to the lower part of the hind margin, which they do not quite reach, uniting just above it with a short, nearly perpendicular, nervure descending from the lower sector. These may be called the subbasal sectors, and are not always distinctly present in the smaller species. Towards the base the neuration becomes irregular. The membranule is usually much larger on the hind wings than on the fore wings, and the adjacent space is frequently tinged with yellow or brown to a greater or less extent.

The lower basal cell, as I have said, is usually traversed by a cross nervure before the middle. Sometimes there are two (*Libellula* &c.) and sometimes more. It occasionally happens that a specimen of a species which has normally only one cross nervure has two on one side or, more rarely, on both.

---

Before dismissing the subject of neuration, I may say that, although this character is subject to considerable variation, within both genera and species, yet the probable amount of this can generally be estimated and allowed for. I have only met with a single instance in which there appears to be a constant difference between the sexes of a species in neuration, viz. *Perithemis bella*, sp. n. (*posteà*, p. 324), in which the subtriangular space has three cells in the male, and only one in the female.

### *f*. ABDOMEN.

The shape of the abdomen sometimes varies so greatly in species which differ little in any other salient character that it can only be used to a very limited extent in separating genera. It is generally more or less thickened at the base, and sometimes inflated or gibbous; while towards the tip it is frequently widened and flattened. These characters, though by no means confined to one sex, are sometimes more pronounced in the male (*Scapanea*).

---

[1] Mr. C. O. Waterhouse suggests that the upper cells lying between the subtriangular and subbasal cells may represent it.

[2] In such cases, cells lying beyond the triangle, but below the upper sector of the triangle, must be counted as posttriangular cells.

The abdomen normally consists of ten segments. The first is a short basal segment, and the second and third are usually thickened, and crossed by one transverse carina, rarely more (only in *Pantala*). The fourth segment is also sometimes transversely carinated, though the carina is frequently imperfect or merely indicated. Along the dorsal line from about the carina on the third segment to the extremity and along the sides run longitudinal carinæ; between them the abdomen either falls away from the dorsal ridge, like the roof of a house, or is more or less rounded off; the under surface of the body is generally quite flat in preserved specimens.

Different as are *Libellula sabina*, Dru., and *L. brunnea*, Fonsc., in the shape of the abdomen, yet I am compelled to include them both for the present in the great genus *Orthetrum*, Newm., which will take in all, or nearly all, the Old-World species usually referred to *Lepthemis*, Hag. They represent the extremes of a long series of species which lead us by insensible gradations from one to the other. The genus *Trithemis* will also include a long series of species differing very considerably in the shape of the abdomen, and most of which have been, in my opinion, less correctly referred by previous authors to *Diplax* (=*Sympetrum*) and *Erythrodiplax*.

### *g.* ABDOMINAL APPENDAGES.

Although these are frequently of very striking forms, and cannot be passed over without notice, yet it appears to me that their classificatory value in Neuroptera has been to some extent overrated. In the Libellulinæ their forms are frequently very similar; and I have only employed them as occasional accessory characters. It would be quite conformable to all analogy for these characters to be of paramount importance in one family, and of little or no value in another. In Coleoptera, for instance, Dr. Leuthner states[1] that the structure of the male sexual organs is important in the Dorcidæ, but useless for classification in the Lucanidæ. Besides, wherever possible, it is desirable to avoid laying too much stress on characters which are peculiar to one sex.

*Appendages of the Second Segment of the Abdomen.*—The true organs of generation in the male are placed beneath the second segment; they generally present the appearance of two distinct prominences, between which is a longer and more slender projection, often double, with a hook at the extremity directed backwards. This is known as the hamulus, and differs considerably in structure in different species. The appendages of the second segment are more or less prominent; and in the genus *Misagria* they are simply enormous, nearly equalling the thickened base of the abdomen itself in bulk.

*Appendages of the Eighth Segment of the Abdomen.*—These are found in the female

---

[1] Trans. Zool. Soc. vol. xi. p. 393.

only. In many genera, especially in stout-bodied insects, the eighth segment is perfoliate, that is, the lateral carina forms a semicircular membranous expansion on each side. At the back of the eighth segment beneath we find a projection called the vulvar scale, which is very prominent in many genera, and is sometimes bifid or trifid.

*Anal Appendages.*—In the male there are two upper appendages, one on each side of the extremity of the abdomen, which are generally curved downwards and then backwards, and are more or less pointed. They are usually about as long as the eighth segment. There is also a lower appendage, curving upwards and usually pointed; it is sometimes nearly as long as the others, but is often shorter, and is sometimes bifid at the extremity. The anal appendages of the female are usually very much shorter than those of the males, consisting of a small pointed filament on each side of the extremity of the abdomen; in a few genera (*Tramea* &c.) they are often as long as those of the male.

## PART II.

### TABLE OF GENERA.

In the present stage of our knowledge I think it would be premature to attempt to subdivide the genera of Libellulinæ into natural groups. I have, however, endeavoured to tabulate the genera in such a manner as to allow of their easy identification, and to arrange the genera themselves in something like a natural sequence. Even this, however, is not easy, from their great number and variety; and in using the table it must always be remembered that specimens will often occur which vary somewhat from the usual characters of the genus, and hence may not always fall into the artificial divisions of the table. Most of those anomalies, however, which have fallen under my notice have been allowed for by duplicate entries in the table; and every genus the name of which occurs more than once is marked with an asterisk. As a rule, accidental aberrations in neuration are confined to one side of a specimen, the other being normal; and therefore when the two sides do not agree, both must, if necessary, be compared with the table.

For convenience, the term "cosmopolitan" has here been used to denote genera occurring in Asia, Africa, and America at least, but does not necessarily imply that a genus is also represented in Europe.

*Table of Genera of* Libellulinæ.

| | | |
|---|---|---|
| 1. A distinct concavity on the costa of the fore wings before the nodus. (2.) | | |
| No concavity on the costa of the fore wings before the nodus. (4.) | | |
| 2. Eyes not contiguous | 12. *Diastatops.* | S. America. |
| Eyes contiguous. (3.) | | |
| 3. Tips of all the wings transparent | 14. *Palpopleura.* | Africa, China. |
| Tips of the hind wings opaque | 13. *Potamothemis.* | S. America. |

| | | |
|---|---|---|
| 4. Apex of the triangle of the fore wings placed distinctly beyond the level of the outer angle of that of the hind wings. (5.) | | |
| Apex of the triangle of the fore wings placed on a level with the outer angle of that of the hind wings, or only slightly beyond it. (14.) | | |
| 5. Abdomen with more than one distinct transverse carina on each of segments 2–4 | 2. *Pantala.* | Cosmopolitan. |
| Abdomen with not more than one distinct carina on each of segments 2–4. (6.) | | |
| 6. Last antenodal cross nervure on the fore wings continuous. | *38. *Orthemis.* | America. |
| Last antenodal cross nervure on the fore wings not continuous. (7.) | | |
| 7. Triangle of the fore wings open. (8.) | | |
| Triangle of the fore wings traversed. (9.) | | |
| 8. Subtriangular space consisting of one cell | 8. *Miathyria.* | America. |
| Subtriangular space consisting of three cells | 49. *Chalcostephia.* | Angola. |
| 9. Sectors of the arculus of fore wings separated at or close to the base | 9. *Rhyothemis.* | Old World. |
| Sectors of the arculus of fore wings stalked, or gradually diverging. (10.) | | |
| 10. Fore wings with more than one cross nervure in the lower basal cell | 5. *Antidythemis.* | Para. |
| Fore wings with only one cross nervure in the lower basal cell. (11.) | | |
| 11. Abdomen with segments 2–4 carinated. (12.) | | |
| Abdomen with segments 2 and 3 carinated. (13.) | | |
| 12. Fore wings with four rows of post-triangular cells, increasing | 6. *Tramea.* | Cosmopolitan. |
| Fore wings with one row of four post-triangular cells, followed by three increasing | 3. *Hydrobasileus.* | Celebes. |
| 13. Nodal sector undulated beyond the middle | 10. *Pseudothemis.* | China. |
| Nodal sector not distinctly undulated beyond the middle. | 7. *Tauriphila.* | Trop. America; ? Australia; ? Philippines. |
| 14. Claws of the tarsi not toothed | 34. *Onychothemis.* | Philippines; [? Madagascar. |
| Claws of the tarsi more or less distinctly toothed. (15.) | | |
| 15. Eyes connected by a long suture. (16.) | | |
| Eyes connected by a short suture, or merely touching. (17.) | | |
| 16. Abdomen slender, inflated at the base | 64. *Zyxomma.* | E. Indies. |
| Abdomen moderately stout, not inflated at the base | 1. *Tholymis.* | Cosmopolitan. |
| 17. Triangles of the fore wings with the base more or less angulated, converting them into trapeziums. (18.) | | |
| All the triangles complete. (29.) | | |
| 18. Triangles of the hind wings converted into trapeziums. (19.) | | |
| Triangles of the hind wings regular. (20). | | |
| 19. Hind wings with two cross nervures in the lower basal cell. | 82. *Nannodythemis.* | Australia. |
| Hind wings with one cross nervure in the lower basal cell. | 83. *Nannophlebia.* | Moluccas. |

| | | |
|---|---|---|
| 20. Abdomen with segments 2–4 carinated. (21.) | | |
| Abdomen with segments 2 and 3 carinated. (23.) | | |
| 21. Last antenodal nervure on the fore wings continuous. (22.) | | |
| Last antenodal nervure on the fore wings not continuous | 85. *Fylgia.* | Para. |
| 22. Fore wings with one row of post-triangular cells | 86. *Nannothemis.* | America. |
| Fore wings with two rows of post-triangular cells | *88. *Fylla.* | E. Indies. |
| 23. All the wings, or at least the hind wings, with more than one cross nervure in the lower basal cell. (24.) | | |
| Hind wings with only one cross nervure in the lower basal cell. (25.) | | |
| 24. Fore wings with more than one cross nervure in the lower basal cell, or with only one near the base | 79. *Tetrathemis.* | E. Indies. |
| Fore wings with only one cross nervure in the lower basal cell near the tip | 78. *Neophlebia.* | Madagascar. |
| 25. Trapezium of fore wings very narrow | 84. *Nannodiplax.* | Australia. |
| Trapezium of fore wings broad or moderate. (26.) | | |
| 26. Triangle of hind wings very small, its base placed half-way between its apex and the arculus | 80. *Brachygonia.* | Borneo. |
| Triangle of hind wings with its base nearly coinciding with the arculus. (27.) | | |
| 27. Abdomen long, the terminal segments broad and depressed | 81. *Nephepeltia.* | S. America. |
| Abdomen short, the terminal segments not broad and depressed. (28.) | | |
| 28. Hind wings with one row of post-triangular cells increasing. | 87. *Nannophya.* | Amboina. |
| Hinds wings with two rows of post-triangular cells increasing | *88. *Fylla.* | E. Indies. |
| 29. More than one cross nervure in the lower basal cell of the fore or hind wings. (30.) | | |
| Only one cross nervure in the lower basal cell of the fore or hind wings. (52.) | | |
| 30. No supratriangular nervures. (31.) | | |
| One or more supratriangular nervures. (36.) | | |
| 31. Abdomen stout, or moderately stout. (32.) | | |
| Abdomen rather slender. (34.) | | |
| 32. Abdomen with segments 2–4 carinated | *15. *Perithemis.* | America. |
| Abdomen with segments 2 and 3 carinated. (33.) | | |
| 33. Sectors of the arculus separated, or rising from a point or very short stalk | *39. *Leptetrum.* | Europe, Asia, America. |
| Sectors of the arculus stalked | *71. *Cannaphila.* | Haiti, Jamaica. |
| 34. Abdomen hardly thickened at base; last antenodal cross nervure on fore wings not continuous | *53. *Hemistigma.* | Africa. |
| Abdomen thickened or inflated at base; last antenodal cross nervure on fore wings continuous. (35.) | | |
| 35. Triangle of hind wings with base placed far beyond the level of the arculus | *48. *Agrionoptera.* | East Indies. |
| Triangle of hind wings with base nearly coinciding with the arculus | 56. *Misagria.* | Para. |

| | | |
|---|---|---|
| 36. Sectors of the arculus separated, or rising from a point or very short stalk. (37.) | | |
| Sectors of the arculus distinctly stalked. (41.) | | |
| 37. Abdomen short, broad, much depressed .............. | 35. *Libellula.* | Europe. |
| Abdomen not remarkably depressed. (38.) | | |
| 38. Abdomen short and broad, with parallel sides; at least two cross nervures in the lower basal cell of the fore or hind wings. (39.) | | |
| Abdomen more or less tapering, one cross nervure (or two on one side, rarely on both) in the lower basal cell of hind wings. (40.) | | |
| 39. Triangle of fore wings not reticulated ................ | 41. *Belonia.* | America. |
| Triangle of fore wings reticulated .................. | 4. *Camacinia.* | Moluccas. |
| 40. Abdomen stout, wings short, or moderately long ...... | *39. *Leptetrum.* | Europe, Asia, America. |
| Abdomen longer and more slender; wings rather long .. | 40. *Plathemis.* | America. |
| 41. Pterostigma with the basal half pale ................ | *53. *Hemistigma.* | Africa. |
| Pterostigma with the basal half not pale. (42.) | | |
| 42. Abdomen rather slender, distinctly dilated at base. (43.) | | |
| Abdomen variable, slightly, or not at all, dilated at base. (44.) | | |
| 43. Frontal tubercle bifid ............................ | *48. *Agrionoptera.* | E. Indies. |
| Frontal tubercle convex .......................... | 47. *Nesoxenia.* | Solomon Islands. |
| 44. Triangle of fore wings free ........................ | 74. *Orchithemis.* | E. Indies. |
| Triangle of fore wings traversed. (45.) | | |
| 45. Abdomen slender, an opaque line running from the base on the lower costal space of all the wings, and ceasing before the nodus ........................ | 54. *Thermochoria.* | W. Africa. |
| Wings with no such opaque line, or with a suffused line in a similar position extending to the nodus. (46.) | | |
| 46. Wings more or less opaque, or if not, strongly suffused with yellow on the hind wings, at least at the base; abdomen rather slender, or moderately stout........ | 11. *Neurothemis.* | E. Indies. |
| Wings hyaline, or opaque at the tip and in the centre; if any yellow or brown tinge is present at the base of the hind wings, the abdomen is decidedly stout. (47.) | | |
| 47. Abdomen rather slender, as long as the hind wings; wings often opaque at the tip or in the middle ...... | 55. *Uracis.* | S. America. |
| Abdomen stout, generally shorter than the hind wings. (48.) | | |
| 48. Fore wings with three or four supratriangular nervures . | 36. *Untamo.* | Sula. |
| Fore wings with at most two supratriangular nervures. (49.) | | |
| 49. Nodal and subnodal sectors very strongly curved at the extremity .................................. | 37. *Lyriothemis.* | E. Indies. |
| Nodal and subnodal sectors very gradually curved at the extremity. (50.) | | |

| | | |
|---|---|---|
| 50. Abdomen with segments 2–4 distinctly carinated …… | *71. *Cannaphila.* | Haiti, Jamaica. |
| Abdomen with segments 2 and 3 carinated. (51.) | | |
| 51. Size rather small; several cross nervures in lower basal cell of hind wings ………… | 73. *Calothemis.* | E. Indies. |
| Size large; more than one cross nervure in the lower basal cell of fore wings only ………… | *43. *Thermorthemis.* | Africa. |
| 52. One or more supratriangular nervures. (53.) | | |
| No supratriangular nervures. (63.) | | |
| 53. Sectors of the arculus separated, or rising from a point or very short stalk. (54.) | | |
| Sectors of the arculus distinctly stalked. (57.) | | |
| 54. Abdomen slender, nodal sector nearly straight, or not much waved beyond the middle ………… | *17. *Celithemis.* | America. |
| Abdomen stout or moderately thick; nodal sector always much waved beyond the middle. (55.) | | |
| 55. Wings and pterostigma long; abdomen moderately stout, long and tapering ………… | *42. *Holotania.* | America. |
| Wings short or moderately long; abdomen stout, not very long. (56.) | | |
| 56. Pterostigma short or moderately long; abdomen short, stout, and tapering ………… | *39. *Leptetrum.* | Europe, Asia, America. |
| Pterostigma long; abdomen shorter than the hind wings, only slightly tapering ………… | *40. *Plathemis.* | America. |
| 57. Base of the pterostigma pale ………… | *53. *Hemistigma.* | Africa. |
| Pterostigma unicolorous. (58.) | | |
| 58. Triangle of fore wings free ………… | 76. *Diplacina.* | Philippines. |
| Triangle of fore wings traversed. (59.) | | |
| 59. Base of triangle of hind wings lying considerably beyond the arculus ………… | *48. *Agrionoptera.* | E. Indies. |
| Base of triangle of hind wings nearly on a level with the arculus. (60.) | | |
| 60. Abdomen not distinctly thickened at base. (61.) | | |
| Abdomen always distinctly thickened, and sometimes inflated at base ………… | *65. *Orthetrum.* | Old World. |
| 61. Abdomen slender ………… | *16. *Pseudoleon.* | Mexico. |
| Abdomen stout. (62.) | | |
| 62. Fore wings with three rows of post-triangular cells …. | 44. *Protorthemis.* | E. Indies. |
| Fore wings with four or five rows of post-triangular cells. | *43. *Thermorthemis.* | Africa. |
| 63. A wide space between the last postnodal cross nervure and the pterostigma ………… | 30. *Macrodiplax.* | Ceram, Philippines. |
| Space between the last postnodal cross nervure and the pterostigma hardly wider than that between the cross nervures themselves. (64.) | | |
| 64. Sectors of the arculus separated, or rising from a point or very short stalk. (65.) | | |
| Sectors of the arculus distinctly stalked. (75.) | | |

| | | |
|---|---|---|
| 65. Nodal sector nearly straight or gradually curved, hardly waved beyond the middle. (66.) | | |
| Nodal sector always waved beyond the middle, in most cases considerably | *39. *Leptetrum.* | Europe, Asia, America. |
| 66. Abdomen stout or moderately stout; segments 2–4 distinctly carinated. (67.) | | |
| Abdomen stout or slender; segments 2 and 3 carinated (sometimes 4 imperfectly in *Celithemis*, which has a slender abdomen). (69.) | | |
| 67. Size small; fore wings with 4–6 postnodal nervures | *15. *Perithemis.* | America. |
| Size moderate; fore wings with 8–11 postnodal nervures. (68.) | | |
| 68. Last antenodal nervure of fore wings continuous | 29. *Deielia.* | Sandwich Islands. |
| Last antenodal nervure of fore wings not continuous | 28. *Brachymesia.* | Australia. |
| 69. Pterostigma short, very broad. (70.) | | |
| Pterostigma moderately long, not unusually broad. (71.) | | |
| 70. Abdomen moderately long, slightly thickened at the base and beyond the middle | 18. *Leucorhinia.* | Europe, N. America. |
| Abdomen rather short, thickened at the base, and greatly expanded beyond the middle | 19. *Cœnotiata.* | Europe. |
| 71. Subtriangular space on fore wings consisting of three or more cells. (72.) | | |
| Subtriangular space on fore wings consisting of 1 cell only. (74.) | | |
| 72. Abdomen slender, triangles of fore wings traversed or reticulated | *17. *Celithemis.* | N. America. |
| Abdomen stout. (73.) | | |
| 73. Abdomen not inflated at base; triangles of fore wings nearly always free | 31. *Urothemis.* | Old World. |
| Abdomen inflated at base; triangles of fore wings traversed | 62. *Cannacria.* | Amazons. |
| 74. Abdomen rather slender, long; last antenodal cross nervure of fore wings not continuous | 33. *Ephidatia.* | America. |
| Abdomen short and broad; last antenodal cross nervure of fore wings continuous | 32. *Æthriamanta.* | India. |
| 75. Claws of the tarsi bifid, or toothed close to the tip. (76.) | | |
| Claws of the tarsi toothed before the tip. (77.) | | |
| 76. Last antenodal cross nervure of fore wings continuous | 52. *Tyriobapta.* | Borneo. |
| Last antenodal cross nervure of fore wings not continuous. | 57. *Macrothemis.* | America. |
| 77. Nodal sector distinctly waved beyond the middle. (78.) | | |
| Nodal sector gradually curved, or straight, not distinctly waved beyond the middle. (85.) | | |
| 78. Abdomen hardly thickened at base. (79.) | | |
| Abdomen more or less thickened at base. (81.) | | |
| 79. Wings variegated | *16. *Pseudoleon.* | Mexico. |
| Wings mostly hyaline. (80.) | | |
| 80. Wings long; abdomen long, rather slender | 61. *Pseudomacromia.* | Africa. |
| Wings moderately long; abdomen stout or very stout | *44. *Protorthemis.* | E. Indies. |

| | | |
|---|---|---|
| 81. Base of triangle of hind wings considerably beyond the level of the arculus. (82.) | | |
| Base of triangle of hind wings nearly coinciding with the arculus. (83.) | | |
| 82. Abdomen slender | *48. *Agrionoptera.* | E. Indies. |
| Abdomen stout | 45. *Nesocria.* | Solomon Islands. |
| 83. Frontal tubercle bifid; eyes merely touching in front | *65. *Orthetrum.* | Old World. |
| Frontal tubercle truncated; eyes distinctly contiguous in front. (84.) | | |
| 84. Abdomen slender | 63. *Neocysta.* | S. America. |
| Abdomen stout | *38. *Orthemis.* | America. |
| 85. Basal segments of abdomen broad, terminal segments suddenly tapering | 77. *Acisoma.* | Africa, E. Indies. |
| Abdomen more uniformly broad, often inflated at base, or gradually tapering. (86.) | | |
| 86. Triangle of fore wings free. (87.) | | |
| Triangle of fore wings traversed. (96.) | | |
| 87. Fore wings with last antenodal cross nervure continuous. (88.) | | |
| Fore wings with last antenodal cross nervure not continuous. (89.) | | |
| 88. Wings and pterostigma rather short | 26. *Microthemis.* | Papua, Borneo. |
| Wings and pterostigma rather long | 27. *Brachydiplax.* | E. Indies. |
| 89. Fore wings with three or four rows of post-triangular cells. (90.) | | |
| Fore wings with two rows of post-triangular cells. (94.) | | |
| 90. Abdomen long and slender; wings long | *53. *Hemistigma.* | Africa. |
| Abdomen and wings rather short or moderately long; abdomen not remarkably slender. (91.) | | |
| 91. Abdomen with segments 2 and 3 carinated. (92.) | | |
| Abdomen with segments 2–4 carinated. (93.) | | |
| 92. Abdomen stout, hardly thickened at base | *25. *Crocothemis.* | Old World. |
| Abdomen slender or moderately stout, generally distinctly thickened at base | *20. *Sympetrum.* | Cosmopolitan. |
| 93. Subtriangular space consisting of three cells | *24. *Brachythemis.* | E. Indies. |
| Subtriangular space consisting of one cell | 72. *Cacergates.* | Africa, W. Asia. |
| 94. Triangle of fore wings long and narrow | *75. *Diplacodes.* | Africa, Asia. |
| Triangle of fore wings broad. (95.) | | |
| 95. Triangle of hind wings with its base nearly coinciding with the arculus | 51. *Anatya.* | Brazil. |
| Triangle of hind wings with its base placed considerably beyond the arculus | 50. *Raphismia.* | Ceram. |
| 96. Basal half of pterostigma pale | *53. *Hemistigma.* | Africa. |
| Basal half of pterostigma not paler than the rest. (97.) | | |
| 97. Fore wings with six continuous antenodal cross nervures. | 70. *Pachydiplax.* | N. America. |
| Front wings with the last antenodal cross nervure very rarely continuous, in cases when the total number exceeds six. (98.) | | |

98. Abdomen with segments 2–4 distinctly carinated ...... *24. *Brachythemis.* E. Indies.
Abdomen with segments 2 and 3 distinctly carinated; sometimes 4 imperfectly. (99.)
99. Frontal tubercle distinctly bifid .................... 69. *Erythemis.* S. America.
Frontal tubercle convex or concave, but not distinctly bifid. (100.)
100. Abdomen not dilated at base; wings and abdomen long and slender .................................. 46. *Lathrecista.* E. Indies.
Abdomen stout; or if slender, more or less dilated at base. (101.)
101. Triangle of fore wings followed by two rows of cells increasing, or by one row of three cells, followed by a series of two cells increasing. (102.)
Triangle of fore wings followed by three rows of cells increasing. (105.)
102. Abdomen short and broad; wings short .............. *23. *Erythrodiplax.* S. America.
Abdomen more or less slender; wings not remarkably short. (103.)
103. Abdomen distinctly dilated at base and tip ............ 68. *Micrathyria.* America.
Abdomen slightly and gradually dilated at base and tip, if at all. (104.)
104. Abdomen slender; first row of cells beyond the triangle of fore wings consisting of two cells; subtriangular space consisting of two cells, rarely three .......... *75. *Diplacodes.* Asia, Africa.
Abdomen slender or moderate; first row of cells beyond the triangle of fore wings generally consisting of three cells; subtriangular space always consisting of three or four cells .................................. *22. *Trithemis.* Cosmopolitan.
105. Base and apex of abdomen greatly dilated ........... 59. *Scapanea.* Antilles.
Base of abdomen generally more or less dilated; the apex slightly and gradually, or not at all. (106.)
106. Wings long, abdomen long and slender. (107.)
Wings moderately long, abdomen variable. (108.)
107. Abdomen gibbous and inflated at base; hind tibiæ with two rows of five or six very strong spines .......... 66. *Lepthemis.* America.
Abdomen gradually thickened; hind tibiæ with shorter, slenderer, and more numerous spines ................ 58. *Dythemis.* America.
108. Hind tibiæ with two rows of 5–7 very strong spines .... 67. *Mesothemis.* America.
Hind tibiæ with shorter, slenderer, and more numerous spines. (109.)
109. Male with the upper anal appendages curved upwards at the tips; female with the vulvar scale forked or bifid.. 21. *Thecadiplax.* China, Japan.
These organs otherwise formed. (110.)
110. Abdomen rather stout, hardly thickened at base. (111.)
Abdomen slender or moderately stout, generally distinctly thickened at the base. (112.)

| | | | |
|---|---|---|---|
| 111. | Wings and abdomen short, the latter with parallel sides | *23. *Erythrodiplax.* | S. America. |
| | Wings and abdomen not remarkably short, the latter tapering | *25. *Crocothemis.* | Old World. |
| 112. | Fore wings with 18–20 antenodal cross nervures | 60. *Rhodopygia.* | S. America. |
| | Fore wings with 7–14 antenodal cross nervures. (113.) | | |
| 113. | Fore wings with triangle rather broad; 7 or 8 antenodal cross nervures placed rather widely apart; very rarely 9 or 10 | *20. *Sympetrum.* | Cosmopolitan. |
| | Fore wings with triangle not remarkably broad; 8–14 antenodal cross nervures (generally 9–11) placed rather closely together | *22. *Trithemis.* | Cosmopolitan. |

## PART III.

## CHARACTERS OF GENERA.

### Genus 1. THOLYMIS.

Hagen, Stett. ent. Zeit. xxviii. p. 221 (1867); Brauer, Verh. zool.-bot. Ges. Wien, xviii. pp. 365, 712 (1868).

Frontal tubercle truncated above; eyes connected by a long suture; face very hairy; abdomen moderately slender, as long as the hind wings, segments 2 and 3 a little thicker than the remainder, and 2–4 carinated, dorsal and lateral carinæ very slightly marked, segment 8 not perfoliate in female: wings rather short and broad, tips rounded off, pterostigma moderately long; fore wings with 10–12 antenodal and 7–11 postnodal nervures, the last antenodal and first two or three postnodal nervures not continuous, cells of the lower postnodal space generally simple (bisected at the extreme tip only in *T. pallida*, Brauer), triangle on nearly the same plane as that of the hind wings, moderately long and narrow, oblique, traversed by one nervure, and followed by three rows of cells, no supratriangular nervures, nor more than one nervure in the lower basal cell, subtriangular space consisting of three cells, sectors of the arculus stalked, nodal sector waved, lower sector of the arculus broken towards the extremity, lower sector of the triangle in this and the seven following genera often very irregular; hind wings broader than the fore wings, with 7–8 antenodal and 8–11 postnodal nervures, last antenodal always continuous, the first two or three postnodals not so; triangle free, followed by two rows of cells, the sectors sometimes separated at the base (*T. citrina*, Hag.): anal appendages rather long.

Type *Libellula tillarga*, Fabr.

### Genus 2. PANTALA.

Hagen, Neur. N. Amer. p. 141 (1860); Brauer, Verh. zool.-bot. Ges. Wien, xviii. pp. 364, 713 (1868).

Frontal tubercle broad, with a slight depression in the middle; eyes connected by half their length in front; abdomen moderately broad, gradually tapering to the extremity, and shorter than the hind wings, the basal segments very slightly thickened, segment 2 with two transverse carinæ, segments 3 and 4 with three, and 5 with one, dorsal carina well marked, segment 8 not perfoliate in female: wings rather long and pointed, pterostigma rather short; fore wings with 12–14 antenodal and 7–8 postnodal nervures, the last antenodal and the first two or three postnodal nervures not continuous, cells of the lower postnodal space simple, triangle nearly straight, rather narrow, placed far beyond the plane of that of the hind wings, traversed by one nervure and followed by three rows of cells (or four on one side, as an occasional anomaly), one supratriangular nervure very rarely present, one nervure in the lower basal cell, subtriangular space consisting of three or four cells, nodal sector much waved, sectors of the arculus stalked, the lower sector broken towards the extremity; hind wings broader than the fore wings, with 7–8 antenodal and 8–9 postnodal nervures, the last antenodal continuous, the first two or three postnodals not so, triangle free, followed by three rows of cells, sectors of the triangle united at base, two cross nervures in the lower basal cell: anal appendages rather long.

Type *Libellula flavescens*, Fabr.

### Genus 3. HYDROBASILEUS, g. n.

(Plate LI. fig. 10.)

*Male.*—Allied to *Tramea*; abdomen with segments 2–4 transversely carinated: wings long and rather pointed, pterostigma moderate; fore wings with 16 antenodal and 8 postnodal nervures, the last antenodal and first postnodal not continuous, triangle rather long and narrow, oblique, with two cross nervures, and followed by four rows of cells, subtriangular space consisting of five cells, nodal and subnodal sectors much waved, lower sector of the arculus almost continuous; hind wings twice as broad as the fore wings at the base, and very gradually narrowed towards the tip, with 10–11 antenodal and 9–10 postnodal nervures, the first two postnodals not continuous, triangle free, followed by three and then four rows of cells, sectors of the triangle united at base. anal appendages moderate.

Type *Tramea quadrivittata*, Hag., MS. (*Hydrobasileus vittatus*, sp. n., *posteà*, p. 314.)

### Genus 4. CAMACINIA, g. n.

Head very large; frontal tubercle bifid; eyes contiguous in the middle; abdomen stout, not thickened at the base, the sides nearly parallel, segments 2 and 3 carinated: wings rather long, pointed at the tips, pterostigma moderately long; front wings with 25–27 antenodal and 17–20 postnodal nervures, frequently anastomosing or bifurcating, the three or four first postnodals not continuous, cells of the postnodal area simple, triangle very long and narrow, oblique, on a level with that of the hind wings, reticulated, of from 7–12 cells, followed by 6–8 rows of cells, 5–6 supratriangular nervures, 3–6 cross nervures in the lower basal cell, subtriangular space ill defined, consisting of about forty cells, sectors of the arculus separated or rising from a very short stalk, and strongly arched at the extremity, nodal and subnodal sectors greatly waved beyond the middle, and strongly arched towards the extremity, where the subnodal sector is somewhat broken, the intermediate cells bisected just before the hind margin, sectors of the triangle subparallel, separated by a double row of cells; hind wings more than twice as broad as the front wings, with 15–17 antenodal and 20–21 postnodal nervures, the first four postnodals not continuous, triangle narrow, crossed by four or five nervures, its base nearly coinciding with the arculus; followed by 6–7 rows of cells increasing, 1 supratriangular nervure, 1–2 cross nervures in the lower basal cell, sectors of the triangle rising close together, spines of the hind tibiæ rather short and strong: anal appendages of male a little longer than the ninth segment; the lower appendages as long as the others, broad, pointed, triangular; appendages of the second segment small.

Type *Neurothemis gigantea*, Brauer.

The characters of this genus are taken partly from Brauer's description (Verh. zool.-bot. Ges. Wien, xvii. p. 8, 1867) and partly from a male in the British Museum. I have not ventured to figure it, because it is from Morty Island (the locality given by Brauer being Amboina), and because the neuration does not quite agree with Brauer's description. Until more specimens are obtained it would be rash to hazard an opinion as to whether this specimen is distinct from Brauer's species or not; but it is certainly congeneric with it, and cannot be conveniently retained in *Neurothemis*, although that genus is used at present in a rather elastic sense.

### Genus 5. ANTIDYTHEMIS, g. n.

(Plate LI. fig. 4.)

Frontal tubercle wide, not distinctly depressed in the middle; eyes contiguous in the middle; abdomen moderately slender, with parallel sides, the basal segments hardly thickened, segments 2–4 transversely carinated, dorsal and lateral carinæ fairly well marked, segment 8 not perfoliate in female: wings long and rather pointed at the tips, pterostigma very long; fore wings with 24–25 antenodal and 13–17 postnodal nervures, the last antenodal and the first three or four postnodals not continuous, cells of the lower postnodal space simple, triangle long and narrow, placed a little beyond the level of that of the hind wings, traversed by 3–4 cross nervures, and followed by five rows of cells, a supratriangular nervure occasionally present, lower basal cell long and narrow, crossed by one nervure at one fourth of its length, and by two or three others close together near its extremity, subtriangular space consisting of 9–11 cells, sectors of the arculus rising close together from a point, subparallel, arched at the extremity, nodal sector and the cells between the nodal and subnodal sectors more or less irregular from the point where an incomplete interstitial sector enters; hind wings opaque at base, nearly twice as broad as the fore wings at the base, but rapidly narrowed towards the tips, with 16–18 antenodal and 18 postnodal nervures, the first three or four postnodals not continuous, triangle rather long, divided by three cross nervures (one of them cutting off the lower basal angle) into four cells, and followed by four or five cells, a supratriangular nervure sometimes present, sectors of the triangle rising from a point, lower basal cell with two cross nervures: anal appendages in male rather long.

Type *Dythemis* (?) *trameiformis*, Selys, MS.

### Genus 6. TRAMEA.

(Plate LI. fig. 1.)

Hagen, Neur. N. Amer. p. 143 (1860); Brauer, Verh. zool.-bot. Ges. Wien, xviii. pp. 364, 713 (1868).

Eyes connected by a short space in front, frontal tubercle broad, very slightly grooved in the middle; abdomen moderately slender, distinctly shorter than the hind wings, segments 2 and 3 slightly thickened, and 4 and 5 slightly contracted, basal and lateral carinæ distinct, though not strongly marked, segments 2, 3, and 4 transversely carinated, segment 8 not perfoliate in female: wings long, rather pointed, pterostigma moderate; fore wings with 11–13 antenodal and 9–11 postnodal nervures, the last antenodal and the first two or three postnodals not continuous, cells of the lower postnodal space simple, triangle generally rather long and narrow, placed considerably beyond the plane of that of the hind wings, traversed by one or two cross nervures, and followed by four rows of cells, no supratriangular nervure, and only one cross nervure in the lower basal cell, subtriangular space consisting of five or six cells, sectors of the arculus stalked, curved, and the lower one often a little irregular at the extremity, nodal sector not waved or broken, subnodal sector broken towards the extremity; hind wings much broader than the fore wings at the base, with 6 or 7 antenodal and 12–13 postnodal nervures, the last antenodal continuous, and the first two postnodals not so, triangle free, followed by three or four rows of cells, an opaque reticulated space at the base of the hind wings, one cross nervure in the lower basal cell, sectors of the triangle united at base: anal appendages rather long.

Type *Libellula carolina*, Linn.

### Genus 7. TAURIPHILA, g. n.

Allied to *Tramea*; abdomen rather broader, and with only segments 2 and 3 transversely carinated: wings long, pterostigma moderate; fore wings with 11–14 antenodal and 8–9 postnodal nervures, the last antenodal and the first two or three postnodals not continuous, triangle traversed by one nervure, and followed by three rows of cells, subtriangular space consisting of three or four cells, subnodal sector and lower sector of the arculus nearly continuous; hind wings not much broader than the fore wings, with 7–9 antenodal and 9–11 postnodal nervures, the first two or three postnodals not continuous, triangle free, followed by two (rarely three) rows of cells: anal appendages rather short.

Type *Tramea iphigenia*, Hag.

### Genus 8. MIATHYRIA, g. n.

(Plate LII. fig. 3.)

Frontal tubercle truncated; eyes large, contiguous in front for rather a long space; abdomen slender, rather shorter than the hind wings, compressed, somewhat gibbous at the base, segments 2 and 3 carinated, 4 imperfectly so, segment 8 not perfoliate in female: wings rather broad, pterostigma short; fore wings with 7–9 antenodal nervures, the last not continuous, and 5–8 postnodal nervures, the first two not continuous, cells of the postnodal area simple, triangle rather narrow, placed considerably beyond that of the hind wings, free, followed by two rows of cells, only increasing on the hind margin, no supratriangular nervures, one cross nervure in the lower basal cell, subtriangular space consisting of one very large pentagonal cell, sectors of the arculus stalked, nodal sector considerably waved at the base, subnodal sector and lower sector of the arculus broken beyond the middle, intermediate cells between the nodal and subnodal sectors only bisected on the hind margin; hind wings much broader than the fore wings, with 4–5 antenodal and 6–9 postnodal nervures, the first two or three postnodals not continuous, triangle free, its base on a level with the arculus, followed by two rows of cells increasing, no supratriangular nervure, one cross nervure in the lower basal cell, sectors of the triangle rising together, membranule very large: anal appendages of the male slender, arched, as long as the ninth segment, those of the second segment moderately developed.

Type *Libellula simplex*, Ramb.

### Genus 9. RHYOTHEMIS.

(Plate LI. figs. 5, 6.)

Hagen, Stett. ent. Zeit. xxviii. p. 232 (1867); Brauer, Verh. zool.-bot. Ges. Wien, xviii. pp. 364, 714 (1868).

Frontal tubercle moderately broad, more or less depressed in the middle when viewed from the front; abdomen moderately slender, cylindrical, with parallel sides, the basal segments hardly thickened, segments 2–4 transversely carinated, dorsal and lateral carinæ very slightly marked, segment 8 not perfoliate in female: wings long, rather pointed at the tips, pterostigma short or moderate; fore wings with 8–12 antenodal and 7–14 postnodal nervures, the last antenodal and the first two or three postnodal nervures not continuous, and the following postnodals of the first and second spaces rarely coinciding, cells of the lower postnodal space simple, triangle generally rather broad and not very acute, placed considerably beyond that of the hind wings, traversed by from 1–4 cross nervures, and followed by from 3–5 rows of cells, one or two supratriangular nervures generally present, not more than one nervure in the lower basal cell, subtriangular space consisting of from four to ten cells, sectors of the arculus separated, rising at or just above its lower extremity, the lower sector of the arculus and the nodal and subnodal sectors nearly continuous, the cells between the nodal and subnodal sectors frequently bisected towards the extremity, lower sector of the triangle arched, generally more regular than in any of the preceding genera; hind wings slightly or considerably broader than the fore wings, with from 5–7 antenodal and 7–13 postnodal nervures, the first two postnodals not continuous, triangle free, followed by two or three rows of cells, its sectors united at the base: anal appendages moderate.

Type *Libellula phyllis*, Drury.

### Genus 10. PSEUDOTHEMIS, g. n.

(Plate LII. fig. 1.)

Frontal tubercle truncated above, slightly concave in front; eyes contiguous in front; abdomen moderately stout, subcylindrical, not thickened at base, and slightly tapering to the extremity, not more than two thirds as long as the hind wings, segments 2 and 3 carinated: wings long, pterostigma moderate; fore wings with 14–15 antenodal nervures, the last not continuous, and 9–10 postnodals, the first three or four not continuous, cells of the postnodal area simple, triangle rather broad, traversed, situated just beyond that of the hind wings, the base and inner side forming a right angle, followed by three rows of cells increasing, no supratriangular nervures, one cross nervure in the lower basal cell, subtriangular space consisting of three cells, sectors of the arculus stalked, the lower sector nearly continuous, nodal sector slightly undulated at the base and in the middle, subnodal sector much less so, the intermediate cells only bisected (if at all) close to the hind margin, lower sector of the triangle arched, comparatively regular; hind wings broader than the fore wings, with 9–10 antenodal and 8–11 postnodal cells, the first three or four postnodals not continuous, triangle free, followed by two rows of cells increasing; no supratriangular nervure, one cross nervure in the lower basal cell, sectors of the triangle united at the base, anal appendages of the male stout, as long as the last two segments, and very hairy, those of the second segment not conspicuous: anal appendages of the female conspicuous, fully as long as the eighth segment; legs clothed with long and slender, but stiff hairs and spines.

Type *Libellula zonata*, Burm.

## Genus 11. Neurothemis.

(Plate LIV. fig. 2; neuration, Plate LV. fig. 2.)

Brauer, Verh. zool.-bot. Ges. Wien, xvii. p. 8 (1867), xviii. pp. 366, 717 (1868).

Frontal tubercle bifid or truncated; eyes connected by a short space in front; abdomen moderately slender, generally shorter than the hind wings, the basal segments not thickened, the longitudinal carinæ slightly marked, the second and third segments transversely carinated (fourth imperfectly); eighth segment not perfoliate in female: wings long, rather pointed at the tips, pterostigma moderately long; fore wings with from 12–30 antenodal and 7–20 postnodal nervures, the last antenodal sometimes continuous, and the first two to four postnodals not continuous; cells of the lower postcostal space simple at the extremity, though the costal spaces are occasionally more or less divided between the base and the pterostigma; triangle placed just beyond that of the hind wings, variable in form, divided by one or more nervures, and often (where the neuration is close) reticulated, followed by from 3–12 rows of cells; 2–8 supratriangular nervures, three nervures at least in the lower basal cell, and often eight or nine; subtriangular space consisting of five cells and upwards, often ill defined, and containing very numerous cells; nodal and subnodal sectors and lower sector of the arculus continuous, but more or less waved, the cells between the two former often bisected, sectors of the arculus stalked; hind wings slightly or considerably broader than the fore wings, with from 10–20 antenodal and 6–20 postnodal nervures, the first two to four postnodals not continuous; triangle traversed by one or more nervures, and often reticulated, the sectors united at base; 1–3 supratriangular nervures, lower basal cell with from 1–3 nervures (generally 2): anal appendages rather short.

Type *Libellula fulvia*, Dru.

## Genus 12. Diastatops.

Rambur, Ins. Névr. p. 135 (1842); Brauer, Verh. zool.-bot. Ges. Wien, xviii. pp. 364, 715 (1868).

Frontal tubercle raised, slightly divided in the middle; eyes distinctly separated, contiguous at no point; abdomen moderately slender, shorter than the hind wings, a little thickened beyond the middle, but the basal segments not thickened, segments 2–4 transversely carinated, dorsal carina well marked, segment 8 not perfoliate in female: wings rather short, rounded at the tips, pterostigma very long, neuration extremely close; fore wings with the costa deeply concave between the base and the nodus, with 14–22 antenodal and about 10 postnodal nervures, the last antenodal and the first two or three postnodal nervures not continuous; the postnodal nervures of both spaces frequently anastomosing between the nodus and the pterostigma, or the cells more regularly bisected; triangle generally long and narrow, placed considerably beyond that of the hind wings, crossed by four or more nervures, and often reticulated, followed by 6–9 rows of cells; 4–6 supratriangular nervures, subtriangular space not clearly defined, consisting of very numerous cells; sectors of the arculus separated, nodal sector slightly waved, subnodal sector and lower sector of the arculus continuous, space between the nodal and subnodal sectors bisected or reticulated; hind wings distinctly longer than the fore wings, and rather broader, with 12–19 antenodal and about the same number of postnodal cells, some of the latter occasionally bisected, the first two to four postnodals and sometimes the last antenodal not continuous; triangle unusually long, crossed by three or more nervures, and often reticulated, followed by numerous cells, its boundaries sometimes indistinct, one or two supratriangular nervures; the lower basal cell crossed by two nervures, and sometimes with the extremity reticulated, sectors of the triangle united at base: anal appendages rather short.

Type *Libellula pullata*, Burm.

### Genus 13. POTAMOTHEMIS, g. n.

Frontal tubercle rounded, hardly depressed in the middle; eyes contiguous; abdomen rather slender, shorter than the hind wings, the basal segments not thickened, 2–4 transversely carinated, segment 8 not perfoliate in the female, pterostigma long: fore wings with a concavity on the costa between the base and the nodus, with about 13 antenodal and 8 postnodal nervures, the last antenodal and the first three or four postnodals not continuous, cells of the costal areas simple, the triangle rather large, placed on a level with that of the hind wings, crossed by one or two nervures, no supratriangular nervures, subtriangular space consisting of 3–8 cells, sectors of the arculus separated (also in the hind wings), lower basal cell free, nodal and subnodal sectors and lower sector of the arculus continuous, the cells on the outer half of the space between the nodal and subnodal sectors bisected; hind wings a little longer than the fore wings, but very slightly broader, with 7–8 antenodal and as many postnodal nervures, the first three or four of the latter not continuous, the triangle rather long, traversed by 1–3 nervures, and followed by 4–5 rows of cells, no supratriangular nervures, two cross nervures in the lower basal cell, sectors of the triangle separated at base: anal appendages moderate.

Type *Libellula fasciata*, Linn.

### Genus 14. PALPOPLEURA.

(Neuration, Plate LVI. fig. 6.)

Rambur, Ins. Névr. p. 129 (1842); Brauer, Verh. zool.-bot. Ges. Wien, xviii. pp. 365, 717 (1868).

Frontal tubercle truncated; eyes contiguous; abdomen rather broad, sometimes slightly depressed, shorter than the hind wings, and broadest in the middle, basal segments not thickened, segments 2–4 transversely carinated, dorsal carina strongly marked, segment 8 not perfoliate in the female; pterostigma long, often bicoloured:

neuration not unusually close; fore wings with the costa a little swollen at one fourth of its length, which is followed by a more or less distinctly marked concavity about halfway between the base and the nodus; 11–15 antenodal and 5–9 postnodal nervures, the last antenodal generally not continuous, and the first two or three postnodals not continuous, cells of the costal areas simple; triangle large, placed hardly beyond that of the hind wings, crossed by 1–3 nervures, and followed by 3–6 rows of cells, supratriangular nervures (1–3) present or absent; subtriangular space consisting of 3–7 cells, sectors of the arculus stalked (or rarely separated on the fore wings), lower basal cell empty or traversed, nodal sector continuous, but slightly waved, subnodal sector and lower sector of the arculus continuous, space between the nodal and subnodal sectors more or less bisected at the extremity; hind wings about as long as the fore wings, and not much broader, with 7–8 antenodal and 5–7 postnodal cells, the first two or three of the latter not continuous; the triangle traversed by one nervure (sometimes two), one or two cross nervures in the lower basal cell (occasionally four); a supratriangular nervure occasionally present, triangle followed by two to three rows of cells, its sectors rising from a point: anal appendages moderate.

Type *Palpopleura vestita*, Ramb.

The variations in neuration between specimens of the same species are very great in this genus, and but little importance can be attached to them. That of a specimen of *P. jucunda*, Ramb., is figured. The sinuation of the costa in the Chinese *P. sexmaculata*, Fabr., is so slight as to be sometimes hardly perceptible.

### Genus 15. Perithemis.

(Plate LI. figs. 7, 8, 9.)

Hagen, Neur. N. Amer. p. 185 (1861); Brauer, Verh. zool.-bot. Ges. Wien, xviii. pp. 365, 718 (1868).

Frontal tubercle rounded; eyes contiguous in front; abdomen moderately stout, with the sides nearly parallel, or rather broad in the middle, tapering at each extremity, and somewhat depressed, shorter than the hind wings; segments 2–4 transversely carinated, segment 8 not perfoliate in the female; pterostigma moderately long, and generally rather thick; fore wings with 7–8 antenodal and 4–6 postnodal nervures, the last antenodal and the first one to three postnodals not continuous, cells of the costal area simple, triangle broad, the upper and basal sides nearly equal, free, or traversed by one or two nervures, followed by two (rarely three or four) cells; no supratriangular nervures, subtriangular space consisting of 1–3 cells, sectors of the arculus separated, or rising from a short stalk, the lower sector continuous, and only gradually curved, lower basal cell with one cross nervure, nodal and subnodal sectors continuous, the former arched, the two last intermediate cells only divided; hind wings slightly broader than the fore wings, with 5–6 antenodal and 4–5 postnodal nervures, the first one or two of the latter not continuous, triangle traversed or free, followed by two or three rows of cells, one or two cross nervures in the lower basal cell, sectors of the triangle rising from a point: anal appendages of the male short and slender.

Type *Libellula tenera*, Say.

### Genus 16. Pseudoleon, g. n.

(Plate LIII. fig. 7.)

Frontal tubercle bifid; eyes contiguous; abdomen moderately slender, shorter than the hind wings, not thickened at base, segments 2 and 3 carinated, 4 imperfectly: wings rather short and broad, of an extremely iridescent hyaline, mottled with brown or purplish brown as in many *Myrmeleonidæ*, pointed at the tips, pterostigma long; fore wings with 9–10 antenodal nervures, the last not continuous, and 5–6 postnodals, the first two not continuous, the postnodals are very irregular in both costal spaces, and most of them are oblique, cells of the postnodal area simple, triangle long and narrow, just beyond that of the hind wings, traversed by a nervure across its upper portion, base oblique, followed by four rows of cells increasing, or by a row of four cells, followed by a series of three increasing, subtriangular space composed of three cells; no supratriangular nervures, one cross nervure in the lower basal cell, sectors of the arculus stalked and considerably curved at the extremity, the nodal sector much waved beyond the middle, and as well as the subnodal sector considerably curved at the extremity, most of the intermediate cells bisected beyond the middle; hind wings rather broader than the fore wings, with 7–8 antenodal and 5–6 postnodal nervures, the first two postnodals (between which and the third there is rather a wide gap, which is likewise the case on the fore wings) are not continuous, triangle traversed, its base corresponding to the arculus, followed by three rows of cells increasing, a supratriangular nervure exceptionally present, one cross nervure on the lower basal cell, sectors of the triangle united at the base: anal appendages of the male rather stout, as long as the last two segments; lower appendage hardly shorter than the others.

Type *Celithemis superba*, Hag.

### Genus 17. Celithemis.

(Plate LII. fig. 2.)

Hagen, Neur. N. Amer. p. 147 (1861); Brauer, Verh. zool.-bot. Ges. Wien, xvii. pp. 367, 718 (1868).

Frontal tubercle truncated above; eyes contiguous; abdomen rather slender, shorter than the hind wings, the basal segment not thickened, 2 and 3 transversely carinated, segment 8 not expanded in the female, pterostigma long; fore wings with 9–10 antenodal and 7–10 postnodal nervures, the last antenodal sometimes continuous, and the first three or four postnodals not continuous, cells of the costal area simple, triangle moderate, placed about level with that of the hind wings, consisting of 3–6 cells, or simply traversed and followed by 3–6 rows of cells, a supratriangular nervure rarely present, subtriangular space consisting of 3–5 cells, sectors of the arculus distinctly separated on the fore wings and stalked in the hind wings, gradually curved, lower basal cell with one cross nervure, nodal and subnodal sectors continuous and nearly straight, many of the cells bisected beyond the middle of the intermediate space; hind wings rather broader than the fore wings, with 5–6 antenodal and 8–10 postnodal nervures, the first three or four of the latter not continuous, the triangle open or traversed, sometimes by a forked nervure, and followed by 3–5 rows of cells, no supratriangular nervure, one cross nervure in the lower basal cell, sectors of the triangle united at the base: anal appendages rather short.

Type *Libellula eponina*, Dru.

I have a little extended the characters of this genus in order to include in it *Diplax elisa* of Hagen (placed in *Leucorhinia* by Brauer, but more correctly referred to *Celithemis* by Walsh) and a new species. *Diplax amanda*, Hag., and *Libellula ornata*, Ramb., may also be included provisionally in *Celithemis*, though they are smaller and the nervures less numerous than in the more typical species.

### Genus 18. LEUCORHINIA.

Brittinger, Sitzungsb. Akad. Wiss. Wien, math.-nat. Classe, i. p. 333 (1850); Brauer, Verh. zool.-bot. Ges. Wien, xviii. p. 719 (1868).

*Leucorhina*, Brauer, l. c. p. 368 (1868).

Frontal tubercle rounded above; eyes contiguous; abdomen moderately slender, not longer than the hind wings, the basal and sometimes also the terminal segments a little thickened, segment 3 (sometimes also 2) transversely carinated, segment 8 not perfoliate in the female, pterostigma short and broad, not more than twice as long as broad; fore wings with 7–8 antenodal and 6–10 postnodal nervures, the last antenodal nearly always continuous, the first three to five postnodals not so, cells of the costal area simple, triangle rather wide, on a level with that of the hind wings, nearly always traversed, no supratriangular nervures, subtriangular space consisting of from 1–3 cells, triangle followed by 2–4 cells, sectors of the arculus separated, or rising from a very short stalk (distinctly stalked on the hind wings), gradually curved, lower basal cell with one cross nervure, nodal and subnodal nervures continuous, the intermediate cells bisected towards the hind margin; hind wings broader than the fore wings, with 5–6 antenodal and 8–10 postnodal nervures, the first three or four postnodals not continuous, triangle free, no supratriangular nervures, one cross nervure in the lower basal cell, sectors of triangle united at base: anal appendages of the male rather short.

Type *Libellula albifrons*, Burm. (This species is not before me, and I have had to take the characters of the genus from *L. pectoralis*, Charp., *dubia*, Lind., *rubicunda*, Linn., *hudsonica*, Selys, and *intacta*, Hag.; the last species is somewhat aberrant, but I have only been able to examine two bad specimens.)

## Genus 19. Cœnotiata.

Buchecker, Syst. Ent., Odonata, p. 10 (1876).

Frontal tubercle rounded above; eyes contiguous; abdomen much shorter than the hind wings, segments 2 and 3 a little thickened, segment 3 transversely carinated, 3–5 of equal length, 4 constricted, 5 expanding, 6 a little shorter, and the remainder rapidly diminishing in length, but much thickened, and somewhat depressed, segment 6 being the broadest; segment 8 not perfoliate in the female, pterostigma short and broad, about twice as long as broad: fore wings with 8–10 antenodal and 6–8 postnodal nervures, the last antenodal not always continuous, and the first three postnodals not continuous, cells of the costal areas simple, triangle wide, on a level with that of the hind wings, traversed, no supratriangular nervures, subtriangular space consisting of three (rarely two) cells, sectors of the arculus rising from a short stalk, gradually curved, lower basal cell with one cross nervure, nodal and subnodal sectors continuous, the intermediate cells bisected towards the hind margin, nodal sector sometimes slightly waved, especially towards the base; hind wings broader than the fore wings, with 6–7 antenodal and 7–8 postnodal nervures, the first three postnodals not continuous; triangle open, followed by two or three rows of cells, no supratriangular nervure; two (rarely one) cross nervures in the lower basal cell, sectors of the triangle hardly united at base: anal appendages of the male rather short.

Type *Libellula caudalis*, Charp.

Buchecker's genus *Cœnotiata* is equivalent to *Leucorhinia*; and as he mentions no type, I have retained the name for one of the species which he includes in it, which appears to me sufficiently distinct to rank as a separate genus.

## Genus 20. Sympetrum.

(Neuration, Plate LV. fig. 4.)

Newman, Ent. Mag. i. p. 511 (1855).

*Diplax*, Charp. Lib. Eur. p. 12 (1840); Hag. Neur. N. Amer. p. 173 (1861); Brauer, Verh. zool.-bot. Ges. Wien, xviii. pp. 369, 719 (1868).

Frontal tubercle slightly truncated; eyes contiguous; abdomen slender, as long as the hind wings, segments 2 and 3 slightly thickened and transversely carinated, segment 8 not perfoliate in the female, pterostigma generally short or moderate: fore wings with 7–8 antenodal (very rarely 9 or 10) and 6–7 postnodal nervures, the last antenodal very rarely, and the first two or three postnodals never continuous, cells of the costal area simple, triangle rather broad, on a level with that of the hind wings, traversed (very rarely free), followed by three (rarely four) rows of cells, no supratriangular nervures, subtriangular space consisting of three cells, sectors of the arculus stalked, gradually curved, lower basal cell with one cross nervure, nodal and subnodal sectors a little irregular, the former generally waved towards the base, the intermediate cells often bisected towards the hind margin, upper sector of the triangle continuous; hind wings broader than the fore wings, with 5 antenodal and 6–8 postnodal nervures, the first three postnodals not continuous, triangle free, followed by two rows of cells, no supratriangular nervures, one cross nervure in the lower basal cell, sectors of the triangle united at base or rising from a point: anal appendages of male rather short; legs with numerous slender bristles.

Type *Libellula vulgata*, Linn.

Buchecker (Syst. Ent., Odonata, p. 9, 1878) includes *Libellula flaveola*, Linn., *depressiuscula* and *fonscolombii*, Selys, and three new species in *Sympetrum*, retaining *Diplax* for the remaining European species. However, even if the genus should be subdivided, his employment of the name *Sympetrum* could not be accepted in this sense, as Newman expressly specifies *L. vulgata*, Linn. (which Buchecker refers to *Diplax*), as his type.

### Genus 21. THECADIPLAX.

Selys, Ann. Soc. Ent. Belg. xxvii. p. 140 (1883), xxviii. p. 38 (1884).

"♂. Appendices anals supérieurs à pointe plus ou moins redressée, le dessous formant une sorte de dent avant la partie terminale, qui est coupée en biseau. Organes génitaux du 2^e^ segment presque toujours saillants. ♀. Ecaille vulvaire assez longue, fourchue ou prolongée en lames contigués (rappelant les *Uracis*). Les 9$^{e}$ et 10$^{e}$ segments de consistance molle comme chez les femelles des *Cordulegaster*."

Type *Diplax erotica*, Selys.

Hardly distinct from *Sympetrum*: the pterostigma is moderately long, and the antenodal nervures vary from 7 to 11 on the fore wings.

### Genus 22. TRITHEMIS.

(Plate LIII. fig. 2.)

Brauer, Verh. zool.-bot. Ges. Wien, xviii. pp. 176, 366, 738 (1868).

Frontal tubercle convex, or slightly depressed in the middle; abdomen moderately slender, sometimes a little thickened at the base, segments 2 and 3 carinated: fore wings with 8–14 antenodal nervures, the last not continuous, and 7–11 postnodal nervures, the first two or three not continuous, cells of the postnodal area simple, pterostigma short or moderate, triangle moderate, on a level with that of the hind wings, traversed, followed by three rows of nervures increasing, or by one or two rows of three, then by several of two increasing, the base hardly oblique, no supratriangular nervures, one cross nervure in the lower basal cell, subtriangular space consisting of three (rarely four) cells, sectors of the arculus stalked, the lower sector a little irregular behind the middle, nodal sector waved at the base, and sometimes slightly in the middle, but usually continuous and nearly straight, subnodal sector continuous, the intermediate cells bisected towards the hind margin; hind wings much broader than the fore wings, with 5–10 antenodal nervures and 6–12 postnodal nervures, the first two or three subnodals not continuous, triangle free, its base nearly coinciding with the arculus, followed by two or three rows of cells, no supratriangular nervures, one cross nervure in the lower basal cell, sectors of the triangle united at the base (separated in *T. trivialis* and some other species): anal appendages of the male as long as the last two segments, depressed, the lower appendages nearly as long as the others, appendages of the second segment not very conspicuous; appendages of the female rather long; vulvar scale of the female very variable, in typical *Trithemis* hardly perceptible, but in some of the American species which approach *Erythrodiplax* (a genus which I regard as at present only provisionally distinct) it is nearly as prominent as in *Crocothemis.*

Type *Libellula aurora*, Burm.

I find it necessary, after separating several discordant species from *Trithemis* under other names, to include in this genus, at least provisionally, (1) the tropical Old-World group usually placed in *Diplax*, of which *Libellula trivialis*, Ramb., is the type; (2) a number of American species included by Hagen in *Diplax* (*Sympetrum*), but distinguished by their more numerous and more crowded costal nervures, and generally by the variable number of posttriangular cells; and (3) most of the species placed in *Erythrodiplax* by Brauer.

### Genus 23. Erythrodiplax.

Brauer, Verh. zool.-bot. Ges. Wien, xviii. pp. 368, 722 (1868).

Characters of *Trithemis.* Wings short; abdomen very short and thick, slightly thickened at the base, otherwise almost equally broad throughout; anal appendages of the male unusually small (as long as the ninth segment) and depressed; the middle appendage a little shorter than the others; appendages of the second segment very conspicuous. From *Erythemis*, which it much resembles, it may be distinguished by the convex frontal tubercle, the very short broad body, hardly tapering even at the extremity, and the slender spines on the legs. The vulvar scale of the female is very prominent.

Type *Libellula plebeia*, Ramb. (= *corallina*, Brauer).

### Genus 24. Brachythemis.

Brauer, Verh. zool.-bot. Ges. Wien, xviii. pp. 367, 736 (1868).

Frontal tubercle large, distinctly convex above; eyes contiguous in front; abdomen rather stout, cylindrical, thickened at the base, and gradually tapering, shorter than the hind wings, segments 2–4 carinated, segment 8 not perfoliate in female: wings short, pterostigma rather long; fore wing with 7–8 antenodal nervures and 5–7 postnodals, the last antenodal and the first three postnodals not continuous, cells of the postnodal area simple, triangle moderate, traversed (exceptionally free), the base slightly oblique, followed by three rows of cells, increasing, no supratriangular nervures, one cross nervure in the lower basal cell, subtriangular space consisting of three cells, sectors of the arculus rising from a short stalk, the nodal sector slightly waved towards the base, the subnodal nearly straight, the intermediate cells only bisected on the hind margin; hind wings broader than the fore wings, with 5 antenodal and 6–7 postnodal nervures, the first two or three subnodals not continuous, triangle free, its base corresponding to the arculus, followed by two rows of cells, increasing, no supratriangular nervures, one cross nervure in the lower basal cell, sectors of triangle united at base: anal appendages of the male slender, as long as the last two segments, the lower appendage somewhat shorter than the others; appendages of the second segment not very conspicuous.

Type *Libellula contaminata*, Fabr.

### Genus 25. CROCOTHEMIS.

Brauer, Verh. zool.-bot. Ges. Wien, xviii. pp. 367, 736 (1868).

Frontal tubercle slightly indented above; eyes contiguous in the middle; abdomen stout, thickest at the base, and gradually tapering, about as long as the hind wings, segments 2 and 3 carinated, segment 8 not perfoliate in female: wings rather short, pterostigma moderate; fore wings with 9–13 antenodal nervures, the last only exceptionally continuous, and 7–11 postnodals, the first two or three not continuous, cells of the postnodal area simple, triangle moderately long, traversed by one nervure (very rarely free, or traversed by two nervures), the base oblique, followed by three rows of cells, increasing, no supratriangular nervures, one cross nervure in the lower basal cell, subtriangular space consisting of three cells, sectors of the arculus stalked, nodal sector waved at the base, and hardly at all in the middle, nodal and subnodal nervures only slightly curved, the intermediate cells bisected towards the hind margin; hind wings broader than the fore wings, with 8–9 antenodal and 8–11 postnodal nervures, the first two or three postnodals not continuous, triangle free (very rarely traversed) and followed by two or three rows of cells, increasing, no supratriangular nervures, one cross nervure in the lower basal cell, sectors of the triangle more or less separated at base: anal appendages of the male hardly longer than the eighth segment, the lower appendage distinctly shorter than the others; appendages of the second segment conspicuous.

Type *Libellula erythræa*, Brullé.

### Genus 26. MICROTHEMIS.

(Neuration, Plate LVI. fig. 1.)

Brauer, Verh. zool.-bot. Ges. Wien, xviii. pp. 367, 724 (1868).

Frontal tubercle rounded; eyes contiguous in the middle; abdomen as long as the wings (which are rather short), broad, depressed, tapering a little towards the tip, segments 2 and 3 carinated, pterostigma short: fore wings with 7 antenodal and 6–7 postnodal nervures, the first two postnodals not continuous, cells of the postnodal area simple, triangle moderate, free, on a level with that of the hind wings, followed by two rows of cells, no supratriangular nervures, subtriangular space consisting of 1–3 cells, sectors of the arculus stalked, the lower sector a little irregular towards the extremity, lower basal cell with one cross nervure, nodal sector undulating at base, the subnodal sector a little irregular towards the extremity, cells between the nodal and subnodal sectors only bisected on the hind margin, lower sector of the triangle regularly zigzag, subparallel to the upper; hind wings a little broader than the fore wings, with 6 antenodal and 6–7 postnodal nervures, the first two postnodals not continuous, triangle free, followed by two rows of cells, or by two, one, two and three, no supratriangular nervures, one cross nervure in the lower basal cell, sectors of the triangle united at the base: anal appendages of male short, slender, a little depressed.

Type *Perithemis duivenbodi*, Brauer.

### Genus 27. BRACHYDIPLAX.

(Plate LIV. fig. 9.)

Brauer, Verh. zool.-bot. Ges. Wien, xviii. pp. 172, 368, 725 (1868).

Frontal tubercle rounded; eyes contiguous in the middle; abdomen as long or longer than the hind wings, a little thickened at the base, and tapering gradually towards the tip, segments 2 and 3 carinated, pterostigma moderate: fore wings with 6–7 antenodal and 5–6 postnodal nervures, the first two postnodals not continuous, cells of the postcostal area simple, triangle rather broad, free, followed by two rows of cells, no supratriangular nervure, subtriangular space consisting of 1–3 cells, if of two the lower triangular portion is cut off by a curved nervure, sectors of the arculus stalked, lower basal cell with one cross nervure, nodal sector undulating at base, the subnodal sector and lower sector of the arculus a little irregular beyond the middle, cells between the nodal and subnodal sectors only bisected on the hind margin; hind wings a little broader than the fore wings, with 5–6 antenodal and 5–6 postnodal nervures, the first two postnodals not continuous, triangle free, the base only just beyond the arculus, followed by a single row of cells (the first obliquely divided) and then by two or more, no supratriangular nervure, one cross nervure in the lower basal cell, sectors of the triangle united at the base; legs armed with numerous slender spines: anal appendages of the male rather short, depressed.

Type *Diplax denticauda*, Brauer.

As Brauer's type is not before me, I have characterized this genus from *B. maria*, Selys, and a new species described below.

### Genus 28. BRACHYMESIA, g. n.

*Male.*—Frontal tubercle large, indented, but hardly bifid at the extremity; eyes contiguous; abdomen rather stout, much thickened at the base, and gradually tapering, segments 2 and 3 carinated: wings and pterostigma moderate; fore wings with 9 antenodal and 8–9 postnodal nervures, the last antenodal and the first three postnodals not continuous, cells of the postnodal area simple, triangle long and narrow, traversed, very oblique (the base straight), placed a little beyond the level of that of the hind wings, followed by three rows of cells, increasing, no supratriangular nervures, one cross nervure in the lower basal cell, subtriangular space consisting of three cells, sectors of the arculus rising from a point, the lower nodal sector a little waved at the base only, nearly straight beyond the middle and then gradually curved, subnodal sector and upper sector of the triangle nearly continuous, intermediate cells between the nodal and subnodal sectors only bisected close to the hind margin; hind wings broader than the fore wings, with 6 antenodal and 8 postnodal nervures, the first two or three postnodals not continuous, arculus very oblique, its sectors shortly stalked, triangle with its base corresponding with the arculus, and followed by two rows of cells, increasing, no supratriangular nervure, one cross nervure in the lower basal cell, membranule large, sectors of the triangle united at the base: anal appendages as long as the last two segments, depressed and denticulated beneath to the middle, then thickened and gradually curving upwards to the tips; lower appendage very broad and short, not half the length of the upper ones, and broadly bifid at the extremity; appendages of the second segment moderate, the three portions of equal length, the tip of the hamulus slender and recurved.

Type *Brachymesia australis*, sp. n.

### Genus 29. Deielia, g. n.

(Plate LIII. fig. 6.)

*Female.*—Frontal tubercle truncated; eyes contiguous for rather a long space; abdomen rather stout, hardly thickened at the base, but gradually tapering, a little shorter than the hind wings, segments 2–4 carinated, segment 8 not perfoliate: wings moderately long, rounded at the tips, pterostigma rather long; fore wings with 7–8 antenodal and 8–11 postnodal nervures, the first four or five postnodals not continuous, cells of the postnodal area simple, triangle rather broad, on a level with that of the hind wings, traversed, followed by three rows of cells, increasing, no supratriangular nervures, one cross nervure in the lower basal cell, subtriangular space consisting of three cells, sectors of the arculus diverging from a very short stalk, the lower sector nearly continuous from the base to beyond the middle, nodal and subnodal sectors only slightly curved, the second half of the intermediate cells bisected; hind wings broader than the front wings, with 5 antenodal and 8–9 postnodal nervures, the first four postnodals not continuous, base of triangle nearly coinciding with the arculus, followed by two rows of cells, increasing, no supratriangular nervures, one cross nervure in the lower basal cell, sectors of triangle rising from a point; legs long and slender.

Type *Deielia fasciata*, sp. n.

### Genus 30. MACRODIPLAX.

Brauer, Verh. zool.-bot. Ges. Wien, xviii. pp. 366, 737 (1868).

Frontal tubercle with a very slight depression in the middle; eyes contiguous; abdomen moderately stout, cylindrical, hardly thickened at the base, shorter than the hind wings, segments 2–4 carinated: wings rather long, and pointed at the tip, pterostigma short; fore wings with 6 antenodal and 6–7 postnodal nervures, a wide space between the last postnodal and the pterostigma, only three nervures in the lower postcostal area before the pterostigma [this character is probably not constant], triangle rather broad, free, followed by two rows of cells, sectors of the arculus with short stalks, nodal sector hardly waved; hind wings very broad.

Type *Diplax cora*, Brauer.

Not in the British Museum; the characters are compiled from Brauer's description.

### Genus 31. UROTHEMIS.

Brauer, Verh. zool.-bot. Ges. Wien, xviii. pp. 175, 366, 437 (1868).

Frontal tubercles truncated; eyes large, contiguous in front for two thirds of their length; abdomen moderately stout, slightly thickened at the base, and very gradually tapering, generally shorter than the hind wings, segments 2 and 3 carinated, segment 8 not perfoliate in female: wings moderately long and broad, pterostigma rather short; fore wings with 6–7 antenodal and 5–8 postnodal nervures, the first two postnodals not continuous, cells of the postnodal area simple, triangle rather broad, slightly beyond that of the hind wings, nearly always free, the base nearly straight; followed by two rows of cells, increasing, or the first row of three followed by two, increasing, no supratriangular nervures, one cross nervure in the lower basal cell, subtriangular space consisting of three cells, sectors of the arculus rising from a point or from a very short stalk, the lower sector gradually curved, a little irregular beyond the middle, nodal and subnodal sectors nearly straight, the former slightly waved at the base only, the intermediate cells only bisected close to the hind margin; hind wings rather broader than the fore wings, with 5–6 antenodal and 7–8 postnodal nervures, the first two postnodals not continuous, triangle rather large, free, its base corresponding with the arculus, and its outer angle meeting the lower sector of the arculus, followed by two rows of cells (the first row sometimes divided into three), increasing, no supratriangular nervures, one cross nervure in the lower basal cell, sectors of the triangle united at the base: anal appendages of the male shorter than the last two segments, the lower appendage nearly as long as the others; appendages of the second segment not conspicuous.

Type *U. bisignata*, Brauer.

The type is not in the British Museum, and the present description has been drawn up from a comparison of *Libellula sanguinea*, Burm., *signata*, Ramb., *designata*, Selys, &c.

### Genus 32. ÆTHRIAMANTA, g. n.

(Plate LIII. fig. 3.)

Frontal tubercle convex; eyes contiguous; abdomen broad, depressed, shorter than the hind wings, not thickened at the base, but broadest in the middle, segments 2 and 3 carinated: wings short, pterostigma moderate; fore wings with 6 antenodal and 5 postnodal nervures, the first two postnodals not continuous, cells of the postnodal area simple, triangle very broad, on a level with that of the hind wings, free, the base straight, forming a right angle with the inner side, followed by two rows of cells, then three, and four on the hind margin, no supratriangular nervures, one cross nervure in the lower basal cell, subtriangular space consisting of one cell, sectors of the arculus rising from a point, the lower sector rather irregular beyond the middle, nodal sector waved at the base only, subnodal sector nearly straight, the intermediate cells only bisected close to the hind margin; hind wings slightly broader than the fore wings, with 5 antenodal and 5 postnodal nervures, the first two postnodals not continuous, triangle large, free, its base coinciding with the arculus, but (as is likewise the case in the fore wings) the lower sector of the arculus falls a little beyond its outer angle, it is followed by two or three cells, first decreasing and then increasing, no supratriangular nervures, one cross nervure in the lower basal cell, sectors of the triangle hardly separated: anal appendages of the male hardly longer than the ninth segment, the lower appendage nearly as long as the others; appendages of the second segment conspicuous.

Type *Libellula brevipennis*, Ramb.

### Genus 33. EPHIDATIA, g. n.

Allied to *Macrothemis*, but with some resemblance to the Corduliinæ. Thorax and abdomen rather slender; abdomen with lateral carinæ on segments 2 and 3, the dorsal carina but slightly marked: fore wings with 7–9 antenodal and 5–6 postnodal nervures, the first antenodal and the first 2 or 3 postnodals not continuous, no supratriangular nervures, discoidal cell wide, empty, followed by two rows of cells, one very large pentagonal subtriangular cell, nodal sector slightly waved, sectors of the arculus rising from a point on the fore wings and stalked on the hind wings, the lower sector of the arculus broken and undulating beyond the middle; hind wings with 5–6 antenodal and postnodal cells, the first two postnodals not continuous, the triangle free, followed by two cells increasing, sectors of the triangle of the hind wings united at base: legs, especially the tibiæ, long and slender, spines moderate.

Type *Erythemis longipes*, Hag. *Ephidatia* will also include *Macromia cubensis*, Scudd., and possibly some other named American species. The type of *Erythemis* is fixed by the "narrow triangle" which Hagen mentions, as *E. bicolor*, Erichs.

*Note.*—This genus should be placed after *Macrothemis* on p. 297.

### Genus 34. ONYCHOTHEMIS.

Brauer, Verh. zool.-bot. Ges. Wien, xviii. pp. 170, 365, 732 (1868).

Frontal tubercle bifid; eyes contiguous; abdomen moderately and uniformly broad, the base a little inflated and compressed when viewed laterally, segments 2–4 carinated, segment 8 perfoliate in female: wings large; the hind wings broad, pterostigma moderate; fore wings with 15 antenodal and 10 postnodal nervures, triangle long and narrow, traversed by one or two nervures, on a level with that of the hind wings, followed by three rows of cells, sectors of the arculus stalked, one cross nervure in the lower basal cell, nodal sector much waved, the upper sector of the triangle curved: legs strongly spined, the claws not toothed, only those of the hind tarsi with a little notch beyond the middle.

Type *Onychothemis abnormis*, Brauer.

The above description is compiled from Brauer. The genus is distinguished from all others by the untoothed claws of the tarsi. I am doubtful whether it is correctly placed here.

### Genus 35. LIBELLULA.

(Neuration, Plate LV. fig. 1.)

Linn. Syst. Nat. ed. x. i. p. 543 (1758); Latr. Hist. Nat. Crust. Ins. iii. p. 286 (1802).
*Platetrum*, Newm. Ent. Mag. i. p. 511, note (1833).
*Pigiphila*, Buch. Syst. Ent., Odonata, p. 11 (1878).

Frontal tubercle broad, a little depressed in the middle; abdomen much shorter than the hind wings, very broad and depressed, with the usual dorsal and lateral carinæ, and transverse carinæ on the second and third segments, segment 8 not perfoliate in female: wings moderately long and broad, narrowed at the tips, pterostigma moderately long; fore wings with about 15 antenodal and 12 postnodal nervures, last antenodal nervure almost always continuous, at least on one side, first four postnodals not continuous, cells of the lower postnodal space not bisected, triangle moderate, traversed by two or three nervures, and followed by 3–5 rows of cells, one supratriangular nervure, subtriangular space consisting of 4–6 cells, sectors of the arculus separated, regularly curved, nodal sector waved, cells between the nodal and subnodal sectors bisected towards the hind margin, lower sector of the triangle arched, comparatively regular; hind wings broader than fore wings, lower basal cell with two cross nervures, the triangle traversed and sometimes reticulated, generally consisting of three cells, and more rarely of two or four, one or two subtriangular nervures, sectors of triangle united at base: anal appendages short.

Type *Libellula depressa*, Linn.

### Genus 36. UNTAMO, g. n.

(Plate LIII. fig. 4.)

*Female.*—Frontal tubercle truncated; eyes contiguous; abdomen moderately broad, a little compressed and slightly tapering, much shorter than the hind wings, the base not thickened, segments 2 and 3 carinated, segment 8 not perfoliate: fore wings rather narrow: hind wings broad, moderately long and slightly pointed at tips, pterostigma moderate; fore wings with 17–18 antenodal nervures, the last not continuous, and 10–12 postnodals, the first two or three not continuous, cells of the postcostal area simple, triangle moderate, a little beyond that of the hind wings, traversed, the outer side oblique, and followed by four rows of cells, then three, and afterwards more, subtriangular space consisting of five cells, sectors of the arculus stalked, the lower sector very slightly undulating, three supratriangular nervures before the triangle and sometimes one above, lower basal cell with 2–3 cross nervures, nodal sector only slightly undulating, the nodal and subnodal sectors continuous and only moderately curved, cells between the nodal and subnodal sectors bisected towards the hind margin; hind wings with 12–13 antenodals, the last or one of the intermediate ones not continuous, and 11–12 antenodals, the first three not continuous, triangle traversed, followed by three rows of cells, its base corresponding with the arculus, one supratriangular nervure, and one cross nervure in the lower basal cell, sectors of the triangle united at the base: anal appendages moderately prominent.

Type *Untamo apicalis*, sp. n.

### Genus 37. Lyriothemis.

(Plate LIII. fig. 5.)

Brauer, Verh. zool.-bot. Ges. Wien, xviii. pp. 180, 365, 728 (1868).

Frontal tubercle bifid; eyes contiguous for a moderately long space; abdomen rather broad, triquetral, of nearly uniform width, much shorter than the hind wings, the base not thickened, segments 2 and 3 carinated, segment 8 slightly perfoliate in female: wings broad, especially the hind wings, moderately long and obtusely rounded at tips, pterostigma moderate; fore wings with 16–20 antenodal and 9–12 postnodal nervures, the first two postnodals not continuous, cells of the lower postcostal area usually more or less bisected towards the apex, beyond the pterostigma, triangle rather short, traversed, on a level with that of the hind wings, the outer side generally very oblique, followed first by three rows of cells, then by several rows of two, then by three and more, subtriangular space consisting of three cells, sectors of the arculus stalked, one supratriangular nervure before the triangle, lower basal cell with two or three cross nervures, nodal sector only slightly waved towards the base, cells between the nodal and subnodal sectors simple, or only the last bisected, these sectors, as well as those of the arculus, nearly continuous, but towards the extremity very strongly curved downwards to the hind margin, almost at a right angle, lower sector of the triangle nearly as long as the upper, slightly and regularly undulating; hind wings considerably broader than the fore wings, with 12–13 antenodal and 10 postnodal nervures, the first two or three postnodals not continuous, triangle traversed, followed by two rows of cells, its base corresponding with the arculus, one supratriangular nervure occasionally present, three or four nervures in the lower basal cell: anal appendages of the male nearly as long as the eighth segment, lower appendage broad, triangular, not shorter than the others, sectors of the triangle united at base; appendages of the second segment prominent.

Type *Lyriothemis cleis*, Brauer.

The type is not in the British Museum, which, however, possesses three other closely allied species, from which the preceding description is chiefly drawn up.

### Genus 38. ORTHEMIS.

(Plate LIV. fig. 1; neuration and details, Plate LVII. figs. 3, 3 *a–e*, 5, 5 *a*.)

Hagen, Neur. N. Amer. p. 160 (1861); Brauer, Verh. zool.-bot. Ges. Wien, xviii. pp. 367, 729 (1868).

Frontal tubercle broad, concave in the middle, forming two obtuse projections; abdomen moderately stout, of nearly uniform breadth throughout, a little shorter than the hind wings, segments 2 and 3 carinated, segment 8 perfoliate in female: wings long and rather pointed, pterostigma very long, placed near the tips; fore wings with 16–18 antenodal and 11–14 postnodal nervures, the first three postnodules not continuous, cells of the postnodal area simple, triangle moderate, rather beyond the level of that of the hind wings, traversed, followed by three rows of cells, subtriangular space consisting of four cells, sectors of the arculus stalked, curved towards the extremities, one cross nervure in the lower basal cell, no supratriangular nervures, all the principal sectors nearly continuous, nodal sector nearly straight at the base, undulating in the middle, space between the nodal and subnodal sectors only bisected towards the hind margin, base of the triangle in a straight line with the upper sector, which is only curved towards the extremity; hind wings with 12–15 antenodal and postnodal nervures, the first three postnodals not continuous, triangle free, followed by three rows of cells (often varied with two rows immediately after the first), no supratriangular nervures, one cross nervure in the lower basal cell, sectors of the triangle united at base: anal appendages moderate, a little shorter than the eighth segment, the lower appendage nearly as long as the others; appendages of the second segment not prominent.

Type *Libellula ferruginea*, Fabr.

### Genus 39. LEPTETRUM.

Newm. Ent. Mag. i. p. 511, note (1833).

*Libellula*, Hagen, Neur. N. Amer. p. 151 (1861); Brauer, Verh. zool.-bot. Ges. Wien, xviii. pp. 366, 730 (1868).

Frontal tubercle broad, truncated, or notched in the middle; eyes contiguous; abdomen rather stout at the base, but not inflated, and gradually tapering, rarely as long as the hind wings, and often much shorter, segments 2 and 3 carinated, 8th segment slightly perfoliate in the female: wings moderately long and broad, pterostigma moderate; fore wings with 11–15 antenodal nervures, the last sometimes not continuous, and 9–13 postnodal nervures, the first two to five not continuous, cells of the postnodal area simple, triangle moderately broad or long, on a level with that of the hind wings, traversed by one to three nervures, the base slightly oblique, followed by three to five rows of cells, generally decreasing, and then increasing, generally one supratriangular nervure, one cross nervure in the lower basal cell, subtriangular space consisting of 2–8 cells, sectors of the arculus rising from a point, and moderately curved at the extremities, the nodal sector waved (often considerably) in the middle, the subnodal much less so, two rows of intermediate cells, frequently increasing to three or even four, before the hind margin; hind wings rather broader than the fore wings, with 9–13 antenodal and 10–16 postnodal nervures, the first four to six postnodals not continuous, triangle generally traversed, followed by two to four rows of cells, a supratriangular nervure sometimes present, one cross nervure in the lower basal cell (rarely two), sectors of triangle united at base: anal appendages of the male rather stout, often nearly as long as the last two segments, the lower appendage distinctly shorter; appendages of the second segment moderately conspicuous.

Type *Libellula 4-maculata*, Linn.

### Genus 40. Plathemis.

Hagen, Neur. N. Am. p. 149 (1861).

Frontal tubercle broad, notched in the middle; eyes contiguous; abdomen rather stout, thickest at the base, especially in the male, and gradually tapering to the extremity, about as long as the hind wings (shorter, and hardly narrowed in the female), segments 2 and 3 carinated, segment 8 strongly perfoliate in female: wings rather short, pterostigma rather long; fore wings with 12–25 antenodal nervures, the last not always continuous, and 8–15 postnodals, the first three to five not continuous, cells of the postnodal area simple, triangle long and rather narrow, about on a level with that of the hind wings, traversed by 1–4 nervures, the base oblique, followed by 4–7 rows of cells, generally decreasing to three or four, and then increasing, one or two supratriangular nervures, one cross nervure in the lower basal cell, subtriangular space consisting of 3–11 cells, sectors of the arculus rising from a point, and gradually curved at the extremities, the nodal sector nearly straight at the base, but much waved in the middle, subnodal sector only slightly waved, two rows of intermediate cells (rarely three) before the hind margin; hind wings broader than the fore wings, with 10–19 antenodal nervures, the last not always continuous, and 9–14 postnodal nervures, the first four not continuous, triangle traversed by one or two nervures (sometimes reticulated, forming four cells), followed by three or four rows of cells (or four and then three) increasing, a supratriangular nervure generally present, one (rarely two) cross nervure in the lower basal cell, sectors of the triangle united at base: anal appendages of the male as long as the eighth segment, moderately stout, the lower appendage distinctly shorter; appendages of the second segment moderately conspicuous.

Type *Libellula lydia*, Drury.

I provisionally include *L. pulchella*, Dru., in this genus, though this species has some resemblance to *Holotania*.

### Genus 41. Belonia, g. n.

(Plate LIV. fig. 4.)

Frontal tubercle incised above; eyes contiguous; abdomen very stout, somewhat depressed, of equal thickness from the base to the eighth segment in both sexes, considerably shorter than the hind wings; the lateral carinæ very strongly marked, segments 2 and 3 transversely carinated, segment 8 strongly perfoliate in the female: wings generally rather short, pterostigma moderate or long; fore wings with 16–21 antenodal and 12–15 postnodal nervures, the first four postnodals not continuous, cells of the postnodal area simple, triangle moderately long, just beyond that of the hind wings, crossed by two or three nervures, the base hardly oblique, followed by 4–6 rows of cells, decreasing to three or four, and then increasing, 1–3 supratriangular nervures, one cross nervure in the lower basal cell, subtriangular space consisting of 5–8 cells, sectors of the arculus rising from a point or from a very short, thick stalk, moderately curved at the extremities, nodal sector hardly waved at the base, but considerably in the middle, subnodal sector hardly waved, two, and sometimes three, rows of intermediate cells towards the hind margin; hind wings slightly broader than the fore wings, with 12–16 antenodal and 14–16 postnodal nervures, the first four not continuous, triangle traversed by one (exceptionally two) nervures, and followed by three or four rows of cells, often decreasing to two or three, and then increasing; a supratriangular nervure frequently present, two cross nervures in the lower basal cell, sectors of triangle united at base: anal appendages of the male rather shorter than the last two segments, and considerably thickened before the extremity; lower appendage broad and slightly indented at the extremity; appendages of the second segment not very conspicuous.

Type *Belonia foliata*, sp. n.

One or two described North-American species, such as *Libellula saturata*, Uhl., and *luctuosa*, Burm., appear to be congeneric, though the abdomen is more slender and somewhat tapering. In these species, too, the first antenodal is generally not continuous.

### Genus 42. Holotania, g. n.

(Neuration, Plate LVII. fig. 2.)

Frontal tubercle elevated, sloping forward, attenuated and concave at the apex; eyes contiguous in front; abdomen long and slender, about as long as the hind wings, hardly thickened at the base, not narrowed, even in the male, till segment eight, segments 2 and 3 carinated, segment 8 perfoliate in the female: wings and pterostigma very long, the latter rather narrow, and slightly pointed at the tip; fore wings with 16–19 antenodal nervures, the last exceptionally discontinuous from irregularity of those in the lower costal area, and 10–16 postnodal nervures, the last three or four not continuous, cells of the postnodal area simple, triangle moderately long, situated just beyond that of the hind wings, traversed by 1–3 (generally two) cross nervures, and followed by four rows of cells, and afterwards by three, increasing (by five or four, or four increasing in some species), generally one or two supratriangular nervures (sometimes wanting), one cross nervure in the lower basal cell, subtriangular space consisting of 3–7 cells, sectors of the arculus rising from a point and moderately curved at the extremities, nodal sector much waved in the middle, subnodal very slightly, the intermediate cells beyond the wave being divided into rows of two, three, and sometimes at the extremity even four cells, lower sector of the triangle rather long, regularly undulating; hind wings a little broader than the fore wings, with 11–14 antenodal nervures, the last sometimes not continuous, and 12–19 postnodal nervures, the first four not continuous, triangle traversed, followed by three or four rows of cells, then two, increasing (exceptionally three), a supratriangular nervure rarely present, one cross nervure in the lower basal cell, sectors of triangle united at base: anal appendages of the male rather shorter than the last two segments, the lower one-third shorter than the others; appendages of the second segment inconspicuous; spines of the legs not numerous, straight, rather slender.

Type *Libellula axilena*, Westw. (=*lydia*, p., Dru.).

### Genus 43. THERMORTHEMIS, g. n.

Frontal tubercle bifid; abdomen as long as the wings, broad, but not depressed, with the usual dorsal and lateral carinæ, and transverse carinæ on the second and third segments, and eighth segment of the female perfoliate: wings moderately long and broad, tips rather pointed, pterostigma very long; fore wings with 19–22 antenodal and 12–14 postnodal nervures, last antenodal nervure continuous, first three or four postnodals not continuous, cells of the lower postnodal space not bisected, triangle long, traversed by two or three nervures (very rarely one), and followed by four or five rows of cells, two or three supratriangular nervures, subtriangular space consisting of six or seven cells, sectors of the arculus stalked, considerably arched at the extremities, nodal sector waved, cells between the nodal and subnodal sectors bisected towards the hind margin; hind wings distinctly broader than the fore wings, the triangle always traversed, and always with one supratriangular nervure, sectors of the triangle united at base.

To include *Libellula caffra*, Burm., *angustiventris* and *madagascariensis*, Ramb.; the last may be regarded as the type.

### Genus 44. PROTORTHEMIS, g. n.

(Plate LIV. fig. 7; details, Plate LVII. figs. 6, 6 *a*.)

Frontal tubercle bifid; abdomen shorter than the wings, very broad or moderately broad, a little depressed, with the usual dorsal and lateral carinæ, and transverse carinæ on the second and third segments, eighth segment of the female perfoliate: wings long, narrow, pointed, pterostigma very long; fore wings with 17–21 antenodal and 9–21 postnodal nervures, last antenodal nervure continuous, the first three or four postnodals not continuous, cells of the second postnodal space bisected between the pterostigma and the apex, triangle moderate, traversed, followed by three rows of cells, frequently a supratriangular nervure, subtriangular space consisting of three or four cells, sectors of the arculus stalked, more or less curved, and the intermediate cells bisected before the extremities as well as those between the nodal and subnodal sectors, nodal sector waved, lower sector of the triangle rather long; hind wings not much broader than the fore wings, the triangle traversed, and sometimes with a supratriangular nervure, sectors of triangle united at base.

Type *Protorthemis celebensis*, sp. n. This genus will also include *Orthemis coronata* and *metallica*, Brauer. *O. metallica* may ultimately form another genus, characterized by the metallic coloration, longer and more slender body, larger membranule on the hind wings, and total absence of supratriangular nervures.

### Genus 45. NESOCRIA, g. n.

Frontal tubercle bifid; clypeus very broad, with a small tubercle on each side; eyes contiguous; abdomen moderately stout, a little thickened at the base, and gradually tapering to the extremity, shorter than the hind wings, segments 2 and 3 carinated: wings very long, narrow, and pointed, pterostigma rather long; fore wings with 18 antenodal and 17 postnodal nervures, the first three postnodals not continuous, cells of the lower postnodal space simple, triangle moderate, traversed by two nervures, on a level with that of the hind wings, and followed by three rows of cells, increasing, subtriangular space consisting of five or six cells, sectors of the arculus stalked, considerably arched at the extremities, lower basal cell with one cross nervure, nodal sector waved beyond the middle and then gradually curved, cells between the nodal and subnodal sectors bisected towards the hind margin and raised to three cells before reaching it; hind wings not much broader than the fore wings, with 16 antenodal and 15–16 postnodal nervures, the first two or three postnodals not continuous, triangle free, its base placed at about one fifth of the distance between the arculus and the extremity of its lower sector, followed by two rows of cells, increasing, no supratriangular nervures, one cross nervure in the lower basal cell, membranule very small, sectors of triangle united at base: anal appendages nearly straight, as long as the eighth segment, the lower appendage rather broad, as long as the others; appendages of the second segment not conspicuous.

Type *Nesocria woodfordi.*

Intermediate between *Agrionoptera* and *Protorthemis*, but not agreeing very well with either.

### Genus 46. LATHRECISTA, g. n.

Frontal tubercle concave, but hardly bifid; eyes contiguous; abdomen rather slender, of nearly uniform thickness, about as long as the hind wings, the base not dilated, segments 2 and 3 carinated, segment 8 not perfoliate in female: wings rather long and narrow, the hind wings not much broader than the fore wings, pterostigma long and rather broad; fore wings with 14–20 antenodal nervures (10–11 in *L.* (?) *difficilis*, Selys), the last not continuous, and 11–13 potsnodals, the first three not continuous, cells of the postnodal and costal areas simple or bisected at the tip, beyond the pterostigma triangle moderate, on a level with that of the hind wings, traversed, followed by three rows of cells, increasing (free, followed by two rows in *L.* (?) *difficilis*), subtriangular space consisting of 3–4 cells, sectors of the arculus stalked, strongly curved at the extremities, no supratriangular nervures, one cross nervure in the lower basal cell, nodal and subnodal sectors undulating in the middle, and curved at the extremity, the intermediate cells bisected towards the hind margin; hind wings with 11–13 antenodal and postnodal nervures, the first three postnodals not continuous, triangle free, followed by two rows of cells, its base corresponding with the arculus or placed just within it; no supratriangular nervures, one cross nervure in the lower basal cell, sectors of the triangle united at base: anal appendages as long as the eighth segment, the lower one hardly shorter than the others, those of the second segment not conspicuous.

Type *Libellula pectoralis*, Brauer.

### Genus 47. NESOXENIA, g. n.

(Plate LIII. fig. 8.)

Frontal tubercle rounded; eyes large, contiguous in front; abdomen slender, as long as the hind wings, slightly but abruptly dilated at the base, as in *Micrathyria*, and thickened at the sutures, segments 2 and 3 carinated, 4 imperfectly: wings long and narrow, pterostigma broad, not very long; fore wings with 14–15 antenodal and 11–15 postnodal nervures, the last two or three postnodals not continuous, cells of the lower postnodal area simple, triangle small, free or traversed, at or beyond the level of that of the hind wings, and followed by two rows of cells, only increasing at about three fourths of the distance to the hind margin, subtriangular space consisting of two cells, being divided by a curved nervure, sectors of the arculus with a very long stalk and only slightly curved at the extremities, lower basal cell with two to four cross nervures, no supratriangular nervures, nodal and subnodal sectors nearly straight, gradually curved towards the hind margin, where there are two or three rows of intermediate cells, lower sector of the triangle regularly undulated beyond the middle and nearly as long as the upper; hind wings rather broader than the fore wings, with 10–13 antenodal and 13–15 postnodal nervures, the first two postnodals not continuous, triangle free, its base placed at one fourth of the distance between the arculus and the lower sector, followed by two rows of cells increasing; no supratriangular nervures, three (rarely four) cross nervures in the lower basal cell, membranule very small, sectors of triangle united at base: upper anal appendages of the male slender, the lower one rather stout, fully as long as the others; appendages of the second segment not prominent, hamulus small, slender, recurved; anal appendages of the female very short.

Type *Nesoxenia cingulata*, sp. n.

### Genus 48. AGRIONOPTERA.

(Neuration, Plate LVI. fig. 3.)

Brauer, Verh. zool.-bot. Ges. Wien, xiv. p. 163 (1864), xviii. pp. 365, 367, 728 (1868); Reise d. Novara, Neur. p. 100 (1866); Selys, Ann. Mus. Genov. xiv. p. 298 (1879).

Frontal tubercle bifid; eyes large, contiguous; abdomen slender, longer than the hind wings, the first three segments much inflated, segments 2 and 3 carinated, segment 8 not perfoliate in female: wings rather long and narrow, the hind wings not much broader than the fore wings, pterostigma rather long and broad; fore wings with 14–18 antenodal and 12–15 postnodal nervures, the first two or three postnodals not continuous, cells of the postcostal area simple, triangle small, on a level with that of the hind wings, free or traversed (rarely by two nervures), followed by two rows of cells, increasing, or by three, and then a series of two increasing, subtriangular space consisting of 2–5 cells, sectors of the arculus stalked, more or less curved at the extremities, a supratriangular nervure only exceptionally present, one cross nervure in the lower basal cell, nodal and subnodal nervures undulating in the middle, not much curved at the extremity, the intermediate cells bisected towards the margins; hind wings with 14–16 antenodal and 11–15 postnodal nervures, the first two postnodals not continuous, triangle free, followed by two rows of cells, its base placed considerably beyond the arculus, no supratriangular nervures, one to three cross nervures in the lower basal cell, sectors of the triangle united at base: anal appendages of the male rather slender, as long as the eighth segment, the lower one not much shorter than the others; appendages of the second segment not conspicuous.

Type *Agrionoptera sexlineata*, Selys.

The neuration of *A. 4-notata*, Brauer, is figured.

### Genus 49. Chalcostephia, g. n.

*Male.*—Frontal tubercle convex; eyes contiguous for rather a long space; abdomen moderately broad, a little narrowed in the middle, hardly thickened at the base, as long as the hind wings, segments 2 and 3 carinated: wings moderately long and broad, rounded at the tips, pterostigma rather long; fore wings with 11 antenodal nervures, the last not continuous, and 8–9 postnodal nervures, the first two not continuous, cells of the postnodal subcostal area simple, triangle rather short and broad, free, placed distinctly beyond that of the hind wings, the lower sector of the arculus striking the base a little before the outer angle, but hardly breaking it, followed by two rows of rather large cells, increasing, subtriangular space consisting of three cells, sectors of the arculus stalked, moderately curved at the extremities, the lower one a little irregular, no supratriangular nervures, one cross nervure in the lower basal cell, nodal sector only slightly waved towards the base, moderately curved at the extremity, subnodal sector straighter, intermediate cells only bisected close to the hind margin; hind wings slightly broader than the fore wings, with 9 antenodal and 8 postnodal nervures, the first two postnodals not continuous, triangle free, placed considerably beyond the level of the arculus, followed by two cells, then by one increasing, no supratriangular nervures, one cross nervure in the lower basal cell, sectors of the triangle united at the base: upper anal appendages as long as the last two segments of the abdomen, depressed, the extremities much thickened and pointed, lower appendage a little shorter; appendages of the second segment very small.

Type *Chalcostephia flavifrons*, sp. n.

### Genus 50. Raphismia, g. n.

(Neuration, Plate LVI. fig. 4.)

Allied to *Brachydiplax*. Fore wings with 9–10 antenodal and 6–8 postnodal cross nervures, the last antenodal and the first two postnodals not continuous, triangle equilateral, followed by two rows of nervures, subtriangular space consisting either of a single very large cell, or divided by a perpendicular line; hind wings with 7 antenodal and 6–7 postnodal nervures, the first two of the latter not continuous, triangle rather narrow, commencing considerably beyond the arculus (with which its base always coincides in *Diplacodes*): male with two small spines projecting from the middle of the metasternum, and the appendages beneath the second segment of the abdomen also prominent, and exhibiting two small hooks, directed backwards, as in some species of *Tramea.*

Type *Diplax bispina*, Hag.

### Genus 51. Anatya, g. n.

(Plate LIII. fig. 9; appendages, Plate LVII. fig. 7.)

Frontal tubercle convex; eyes contiguous in front; abdomen rather slender, as long as the hind wings, a little compressed, the base slightly thickened, the extremity still more slightly, segments 2 and 3 strongly carinated, segment 8 not perfoliate in female: wings rather long and narrow, pterostigma rather short and broad; fore wings with 10–11 antenodal nervures and 8–10 postnodal cross nervures, the last antenodal and the first two postnodals not continuous, cells of the postnodal area simple, triangle rather small, on a level with that of the hind wings, free, the base slightly oblique, followed by two rows of cells, increasing at or beyond the middle to three (and on the hind margin more), no supratriangular nervures, one cross nervure in the lower basal cell, subtriangular space consisting of one or two cells (generally bisected by a vertical line, as in *Macrothemis*), sectors of the arculus stalked, slightly and gradually curved, nodal sector only waved at the base, subnodal sector sometimes a little irregular, cells between the nodal and subnodal sectors only bisected at the hind margin; hind wings rather broader than the fore wings, with 7–10 antenodal and 10 postnodal nervures, the first two postnodals not continuous, triangle free, its base on a level with the arculus, followed by two (or three and two) rows of cells increasing, no supratriangular nervures, one cross nervure in the lower basal cell, upper sector of the triangle rising considerably above the lower angle, where the lower sector rises: legs clothed with long slender spines, claws of the tarsi throwing off a branch before the tip: upper anal appendages of the male extremely anomalous, as long as the last two segments, curving abruptly downwards just before the extremity of the very short, pointed, lower appendage, and then throwing upwards and backwards a pointed projection three times as long as the shaft and almost at right angles to it; appendages of the second segment not conspicuous.

Type *Anatya anomala*, sp. n.

### Genus 52. TYRIOBAPTA, g. n.

(Plate LIV. figs. 5, 6.)

Frontal tubercle broad, very slightly convex; eyes contiguous in front; abdomen moderately slender, not thickened at the base or tip, segments 2 and 3 carinated, segment 8 not perfoliate in female: wings rather long, pterostigma moderately long, rather longer on the hind than on the fore wings; fore wings with 11–13 antenodal and 11–12 postnodal nervures, the first two postnodals not continuous, cells of the postnodal area simple, triangle moderate, on a level with that of the hind wings, free, followed by two rows of cells, increasing, no supratriangular nervures, one cross nervure in the lower basal cell, subtriangular space consisting of one cell, sectors of the arculus stalked, gradually curved, nodal and subnodal sectors nearly straight, gradually curved towards the hind margin, intermediate cells bisected towards the hind margin, sectors of the triangle rather short, of nearly equal length, the lower one comparatively regular; hind wings rather broader than the fore wings, with 9–10 antenodal and 10–11 postnodal nervures, the first two or three postnodals not continuous, triangle free, its base on a level with the arculus, followed by two or three rows of cells, increasing, no supratriangular nervure, one cross nervure in the lower basal cell, sectors of the triangle rising from a point: spines of the legs slender, rather long: anal appendages of the male as long as the ninth segment, the lower appendage hardly shorter; appendages of the second segment conspicuous, the hamulus terminating in a slender double hook.

Type *Tyriobapta torrida*, sp. n.

### Genus 53. Hemistigma, g. n.

Frontal tubercle convex; eyes contiguous in front; abdomen slender, as long as the hind wings in the male and a little shorter in the female, hardly thickened at the base, segments 2 and 3 strongly carinated, segment 8 not perfoliate in female: wings long, narrow, and rather pointed, pterostigma long, the basal third always pale; fore wings with 10–14 antenodal nervures and 8–10 postnodal nervures, the last antenodal and the first two or three postnodals not continuous, cells of the postnodal area simple, triangle moderate, on a level with that of the hind wings, free, or traversed by one nervure (exceptionally two), followed by three rows of cells, increasing, or two increasing, or three followed by a series of two increasing, the base hardly oblique, generally one supratriangular nervure, one cross nervure in the lower basal cell, sectors of the arculus stalked, more or less curved at the extremities, nodal sector only waved at the base, the subnodal hardly at all, the intermediate cells bisected towards the hind margin; hind wings broader than the fore wings, with 7–8 antenodal and 8–10 postnodal nervures, the first two or three subnodals not continuous, triangle free, its base on a level with the arculus, and followed by two rows of cells, increasing, or two and then one, increasing, a supratriangular nervure only exceptionally present, one (rarely two) cross nervures in the lower basal cell, sectors of the triangle united at base: anal appendages of the male slender, as long as the ninth segment, the lower one nearly as long as the others; appendages of the second segment moderately conspicuous.

Type *Libellula albipuncta*, Ramb.

### Genus 54. Thermochoria, g. n.

(Plate LII. fig. 8.)

Characters of *Hemistigma*. Abdomen more distinctly thickened at base, pterostigma shorter, unicolorous; fore wings with 16–17 antenodal nervures and 10 postnodal nervures, the last antenodal and the first two postnodals not continuous, triangle traversed, followed by three rows of cells, and a series of two increasing, two supratriangular nervures, three cross nervures in the lower basal cell, sectors of the arculus hardly more curved at the extremity than the nodal and subnodal sectors; hind wings with 12 antenodal and 11 postnodal nervures, the first two postnodals not continuous, triangle traversed, followed by two rows of cells, increasing, one supratriangular nervure, three cross nervures in the lower basal cell.

Type *Thermochoria equivocata*, sp. n.

### Genus 55. URACIS.

Ramb. Ins. Névr. p. 31 (1842); Brauer, Verh. zool.-bot. Ges. Wien, xviii. pp. 365, 727 (1868).

Frontal tubercle slightly concave; eyes contiguous in front; abdomen slender, of uniform thickness, and rather shorter then the hind wings, not thickened at the base, segments 2 and 3 carinated, segment 8 not perfoliate in female, pterostigma long; fore wings with 12–13 antenodal nervures and 10–13 postnodal nervures, the last antenodal and the first two or three postnodals not continuous, cells of the postnodal spaces generally more or less bisected or reticulated beyond the pterostigma, triangle moderate, traversed, followed by three rows of cells (sometimes two), subtriangular space consisting of three or four cells, sectors of the arculus stalked, moderately curved at the extremities, one to three supratriangular nervures sometimes present, lower basal cell with one to six cross nervures, nodal sector undulating at the base, subnodal sector nearly continuous, but with the curve more flattened than usual in the middle, cells between the nodal and subnodal sectors bisected towards the hind margin; hind wings with 10–12 antenodal and postnodal nervures, the first two postnodals not continuous, the triangle traversed. followed by two and more rows of cells, its base is sometimes on a level with the arculus, and sometimes one fourth of the distance from the arculus to the tip of the triangle, one supratriangular nervure generally present, lower basal cell with three to five cross nervures, sectors of the triangle united at base or occasionally rising from a very short stalk: anal appendages of the male slender, as long as the eighth segment; appendages of the second segment moderately prominent.

Type *Libellula imbuta*, Burm.

I have not been able to examine a sufficient series of the few described species of the genus to venture to subdivide it; but I doubt if *L. infumata*, Ramb., which Brauer places here, is really congeneric. The triangle of the hind wings falls considerably beyond the arculus, and is followed by two cells (or, rather, a large one bisected), and then a row of single cells, afterwards increasing.

### Genus 56. MISAGRIA, g. n.

(Plate LII. fig. 9; details, Plate LVII. figs. 8, 8 *a*.)

*Male.*—Frontal tubercle convex; eyes contiguous; abdomen rather slender, nearly as long as the hind wings, considerably and suddenly thickened at the base, and each segment thickened at the extremity to the seventh, eighth and ninth as broad as the extremity of the seventh, segments 2–4 carinated: wings and pterostigma rather long; fore wings with 16–17 antenodal and 12 postnodal nervures, the first three postnodals not continuous, cells of the postnodal area simple, triangle small, on a level with that of the hind wings, traversed, the base hardly oblique, followed by two rows of cells, increasing to three in the middle, and to four or five on the hind margin, no supratriangular nervures, one cross nervure in the lower basal cell, subtriangular space consisting of three cells, sectors of the arculus stalked, somewhat arched at the extremities, nodal and subnodal nervures only slightly waved towards the base, the latter more arched on the hind margin, intermediate cells only divided on the hind margin, sectors of the triangle rather long; hind wings rather broader than the fore wings, with 13–14 antenodal and 12–13 postnodal nervures, the first three postnodals not continuous, triangle traversed and followed by two rows of cells, increasing, no supratriangular nervures, three cross nervures in the lower basal cell, sectors of the triangle united at base: anal appendages as long as the eighth segment, thickened before the extremity and pointed, lower appendage shorter than the others, broad, bifid at the extremity; appendages of the second segment very large, especially the hinder lobe, which is inflated like a bladder, the lateral processes preceding it are like very thick pincers, the apices directed inwards.

Type *Misagria parana*, sp. n.

### Genus 57. MACROTHEMIS.

(Plate LIV. fig. 3; claws, Plate LVII. fig. 11.)

Hagen, Stett. ent. Zeit. xxix. p. 281 (1868); Brauer, Verh. zool.-bot. Ges. Wien, xviii. p. 734 (1868).

Frontal tubercle broad, truncated above; eyes contiguous in front for rather a long space; abdomen slender, as long as or longer than the hind wings, the basal and terminal segments distinctly but not excessively thickened in both sexes, segments 2 and 3 (and sometimes 4 partially) carinated, segment 8 not perfoliate in female: wings long and narrow, pterostigma short; fore wings with 12–15 antenodal and 6–9 postnodal nervures, the last antenodal and the first two postnodals not continuous, cells of the postnodal area simple, triangle small, rather beyond the level of that of the hind wings, free, followed by two rows of cells, only increasing towards the hind margin, no supratriangular nervures, one cross nervure in the lower basal cell, subtriangular space consisting of one or two cells, most frequently bisected by a nearly perpendicular nervure, sectors of the arculus stalked, rather suddenly curved at the extremities, the nodal sector only slightly waved at the base, the subnodal nearly continuous, the intermediate cells bisected towards the hind margin; hind wings with 9–10 antenodal and 7–10 postnodal nervures, the two or three first postnodals not continuous, triangle free, its base nearly corresponding with the arculus, followed by two rows of cells increasing (sometimes the series is interrupted by a single cell), no supratriangular nervures, one cross nervure in the lower basal cell, sectors of triangle rising from a point: upper anal appendages of the male as long as the eighth segment, pointed, and triangularly thickened below before the apex; lower appendages two thirds as long, pointed; appendages of the second segment small, but the hamulus distinct, rising straight, and the apex recurved; legs long, clothed with numerous long and slender spines or bristles; claws of the tarsi bifid.

Type *Libellula celæno*, Selys.

Our figures represent *M. hemichlora*, Burm.

### Genus 58. DYTHEMIS.

Hagen, Neur. N. Amer. p. 162 (1861); Brauer, Verh. zool.-bot. Ges. Wien, xviii. pp. 368, 733 (1868).

Frontal tubercle convex; eyes contiguous in front; abdomen slender, as long as the hind wings, the base gradually thicker, segments 2 and 3 carinated, segment 8 not perfoliate in female: wings rather long and narrow, pterostigma long; fore wings with 15–16 antenodal and 9–10 postnodal nervures, the last antenodal and the first two or three postnodals not continuous, cells of the postnodal area simple, triangle long, rather narrow, nearly straight, a little beyond that of the hind wings, traversed, followed by three rows of cells, increasing, no supratriangular nervures, one cross nervure in the lower basal cell, subtriangular space consisting of three or four cells, sectors of the arculus stalked, gradually curved at the extremities, nodal sector distinctly waved in the middle, subnodal nearly continuous, the intermediate cells bisected towards the hind margin; hind wings broader than the fore wings, with 10–12 antenodal and postnodal nervures, the first three postnodals not continuous, triangle free, its base on a level with the arculus, followed by two rows of cells increasing, no supratriangular nervures, one cross nervure in the lower basal cell, sectors of the triangle generally rising from a point, but sometimes showing a tendency to separation; spines of the legs rather short and slender: anal appendages of the male as long as the eighth segment, the lower appendage only slightly shorter than the others; appendages of the second segment not conspicuous.

Type *Libellula rufinervis*, Burm.

### Genus 59. SCAPANEA, g. n.

Frontal tubercle concave; eyes contiguous in front; abdomen moderately stout, shorter than the hind wings, a little compressed, the base somewhat gibbous and gradually thickened, greatly thickened at the extremity beyond segment 6, especially in the male, where the expanded apex is broadly spatulate and depressed, segments 2 and 3 carinated, segment 8 not perfoliate in female: wings rather long; fore wings with 14–16 antenodal and 9–10 postnodal nervures, the last antenodal and the first three postnodals not continuous, cells of the postnodal area simple, triangle long, rather narrow, oblique, a little beyond that of the hind wings, traversed, followed by three rows of cells, increasing, no supratriangular nervures, one cross nervure in the lower basal cell, subtriangular space consisting of three cells, sectors of the arculus stalked, suddenly curved at the extremities, nodal sector distinctly waved in the middle, subnodal much less so, the intermediate cells bisected towards the hind margin; hind wings broader than the fore wings, with 10–13 antenodal nervures (the last exceptionally discontinuous) and 9–11 postnodal nervures, the first three not continuous, triangle free, its base on a level with the arculus, followed by two or three rows of cells increasing, no supratriangular nervures, one cross nervure in the lower basal cell: spines of the legs short and slender, sectors of the triangle united at base: anal appendages of the male rather stout, as long as the eighth segment, the lower appendage only slightly shorter than the others; appendages of the second segment not conspicuous.

Type *Libellula frontalis*, Burm.

### Genus 60. Rhodopygia, g. n.

(Plate LII. fig. 10.)

Characters of *Dythemis* and *Scapanea*, but more robust and with more numerous cross nervures. Fore wings with 18–20 antenodal and 12–14 postnodal nervures, the last antenodal and the first two or three postnodals not continuous, nodal sector hardly undulated beyond the middle; hind wings with 12–15 antenodals and 14–15 postnodals, the first three postnodals not continuous; abdomen as long as the hind wings, triquetral, rather stout, slightly gibbous at the base, dilated laterally, but compressed, so that the dilatation is not visible from above, the segments very gradually widening as far as the seventh, and slightly depressed at the widest part.

Type *Libellula cardinalis*, Erichs.

### Genus 61. Pseudomacromia, g. n.

(Plate LII. fig. 7.)

Allied to *Lepthemis*, but with the abdomen stouter and very slightly expanded at the base, and the wings broader, giving the insect at first sight a strong resemblance to *Macromia* or *Anax*. Eyes large, connected by a moderate space; segments 2 and 3 of the abdomen carinated, segment 4 slightly; legs stout, of moderate length, and with slender and moderately long bristles, femora distinctly serrated beneath: fore wings with 11–12 antenodal and 6–8 postnodal nervures, the last antenodal and the first 1–3 postnodals not continuous, nodal sector much waved in the middle, sectors of the arculus rising at two thirds of its length in a long stalk which arches upwards, and rather suddenly curved at the extremities, triangle moderate, traversed, followed by three rows of cells, its upper sector nearly straight, subtriangular space consisting of three or four cells, no supratriangular cells, and only the usual single cross nervure in the long and narrow basal cell, pterostigma moderate, triangle of the hind wings generally open, its sectors united at their origin.

Type *Pseudomacromia torrida*, sp. n.

Has much external resemblance to *Macromia*, but for the open cells and the discontinuity of the last antenodal subcostal nervure on the fore wings. The latter character is of the greatest importance; for (with a single doubtful exception) every species of Corduliinæ known to me has the last antenodal nervure continued on the lower costal space, an arrangement which is only occasional in the Libellulinæ.

### Genus 62. CANNACRIA, g. n.

(Plate LIII. fig. 1; appendages, Plate LVII. fig. 9.)

Frontal tubercle slightly concave; eyes contiguous in front; abdomen as long as the hind wings, of moderate and nearly uniform thickness beyond the base, which is gibbous, and considerably thickened when viewed laterally, segments 2 and 3 carinated, segment 8 not perfoliate in female: wings rather long and pointed, pterostigma moderate; fore wings with 10–11 antenodal and 9–10 postnodal nervures, the last antenodal and the first three postnodals not continuous, cells of the postnodal area simple, triangle moderate, rather oblique, just beyond the level of that of the hind wings, traversed, and followed by three rows of cells increasing, no supratriangular nervures, one cross nervure in the lower basal cell, subtriangular space consisting of three cells, sectors of the arculus separated or rising from a very short stalk, rather abruptly curved at the extremities, and the lower one slightly waved beyond the middle, nodal and subnodal sectors gradually curved, and the intermediate cells bisected towards the hind margin, nodal sector waved towards the base, very slightly in the middle, upper sector of the triangle rather long; hind wings broader than the fore wings, with 6 antenodal and 9–10 postnodal nervures, the first three postnodals not continuous, triangle free, its base nearly on a level with the arculus, followed by two rows of cells increasing, no supratriangular nervures, one cross nervure in the lower basal cell, sectors of the triangle hardly separated at base: anal appendages of both sexes at least as long as the ninth segment, lower appendage in the male very broad, short, and bifid at the extremity; appendages of the second segment not conspicuous.

Type *Cannacria batesii*, sp. n.

### Genus 63. NEOCYSTA, g. n.

*Male.*—Frontal tubercle truncated, hardly concave above; eyes contiguous near the front for one third of their length; abdomen rather slender, about as long as the hind wings, the basal segments inflated, but not gibbous, segments 2 and 3 carinated, segment 4 not carinated nor contracted at the base: wings and pterostigma rather long; fore wings with 16–18 antenodal nervures, the last continuous, and 12–15 postnodals, the first three not continuous, cells of the postnodal area simple, triangle moderately long and narrow, traversed, on a level with that of the hind wings, and followed by three rows of cells, no supratriangular nervures, one cross nervure in the lower basal cell, subtriangular space consisting of four cells, sectors of the arculus stalked, arched at the extremities, nodal and subnodal sectors undulating in the middle, the intermediate cells bisected towards the hind margin; hind wings broader than the fore wings, with 12–15 antenodal and 15–17 postnodal nervures, the first three postnodals not continuous, triangle free, followed first by three rows of cells and then by a series of two, increasing, no supratriangular nervures, one cross nervure in the lower basal cell, sectors of the triangle united at the base: anal appendages of the male as long as the ninth segment, rather slender towards the base, then thicker and a little depressed, the lower appendage nearly as long as the others; those of the second segment not conspicuous; spines of the hind tibiæ more numerous than in *Lepthemis* and slender.

Type *Libellula attenuata*, Eversm.

### Genus 64. Zyxomma, Ramb.

(Head, Plate LVII. fig. 10.)

Ramb. Ins. Neur. p. 30 (1842); Brauer, Verh. zool.-bot. Ges. Wien, xviii. pp. 364, 712 (1868).

Eyes connected by a long suture as in *Æshna*; face very hairy; frontal tubercle rounded above, entire; abdomen very slender, longer than the hind wings, segments 2 and 3 inflated, and 2–4 carinated, dorsal and lateral carinæ very slightly marked, segment 8 not perfoliate in female: wings long and narrow, pterostigma moderately long; fore wings with 11–12 antenodal and 5–7 postnodal nervures, last antenodal and first two or three postnodals not continuous, cells of the lower postnodal space simple, triangle on the same plane as on the hind wings, slightly oblique, rather broad and short, traversed by one nervure, and followed by three rows of cells, no supratriangular nervures, nor more than one nervure in the lower basal cell, subtriangular space consisting of three cells, sectors of the arculus stalked, arched at the extremities, the lower one often a little irregular beyond the middle, nodal sector very slightly waved; hind wings not much broader than the fore wings, with 8 or 9 antenodal and 5–9 postnodal nervures, the last antenodal nearly always continuous, but the first two or three postnodals not continuous, triangle free, followed by two rows of cells, sectors of the triangle often slightly separated at base: anal appendages rather short.

Type *Zyxomma petiolatum*, Ramb.

### Genus 65. Orthetrum.

(Neuration, Plate LV. figs. 5, 6.)

Newm. Ent. Mag. i. p. 511, note (1833).
*Libella*, Brauer, Verh. zool.-bot. Ges. Wien, xviii. pp. 368, 731 (1868).
*Hydronympha*, Buch. Syst. Ent., Odonata, p. 8 (1878).

Frontal tubercle bifid; eyes contiguous in front; abdomen slender or moderately broad, shorter or longer than the hind wings, the base always more or less thickened, and sometimes inflated, segments 2 and 3 carinated, segment 4 sometimes a little constricted at the base, segments 4–7 generally of nearly equal size, whatever the shape of the abdomen, segment 8 slightly perfoliate in female: wings moderately long and broad, the hind wings a little broader than the fore wings, pterostigma moderate; fore wings with 12–16 antenodal and 7–11 postnodal nervures, first one to three postnodals not continuous, cells of the postcostal area sometimes bisected at the extreme tip, triangle moderate, traversed, on a level with that of the hind wings, followed by three rows of cells, increasing, subtriangular space consisting of two to five cells (generally three), sectors of the arculus shortly stalked, and strongly curved at the extremities, one (rarely two) subtriangular nervure generally present before the base of the triangle, one cross nervure in the lower basal cell, nodal sector undulating considerably in the middle and moderately curved at the extremity, the subnodal much less waved, the intermediate cells bisected towards the hind margin; hind wings with 10 antenodal and 10–11 postnodal nervures, the first three postnodals not continuous, triangle free or traversed, followed by three rows of cells, its base corresponding with the arculus, a supratriangular nervure very rarely present, one cross nervure in the lower basal cell, sectors of the triangle united or separated at base: anal appendages about as long as the ninth segment, the lower appendage a little shorter than the other, those of the second segment more or less conspicuous; tibial spines usually strong.

Type *Libellula cœrulescens*, Fabr.

I have been compelled to give this genus a very wide extension, and even to include in it the bulk of the Old-World species placed in *Lepthemis* by authors. The conspicuous differences in the shape of the abdomen visible in the groups typified by *Libellula sabina*, Dru., *brachialis*, Beauv., *cœrulescens*, Fabr., and *brunnea*, Fonsc., are unaccompanied by any permanent characters of neuration, and are linked together to a great extent by intermediate forms. The most distinct-looking section is that of *L. sabina*, Dru., and its immediate allies, in which the abdomen is more suddenly and considerably inflated, and the sectors of the triangle on the hind wings are more widely separated than in the other sections of *Orthetrum*; but these characters are only comparative, and are hardly sufficiently well marked or isolated to entitle this group to generic separation.

### Genus 66. LEPTHEMIS.

(Neuration, Plate LVII. fig. 1.)

Hagen, Neur. N. Amer. p. 160 (1861); Brauer, Verh. zool.-bot. Ges. Wien, xviii. pp. 368, 723 (1868).

Frontal tubercle concave above; eyes contiguous in the middle; abdomen long and slender, generally longer than the hind wings, the basal segments gibbous above, and distinctly inflated when viewed from above as well as from the side, segments 2 and 3 carinated, segment 4 usually a little contracted at the base, segment 8 not perfoliate in female: wings and pterostigma rather long; fore wings with 14–15 antenodal and 12–13 postnodal nervures, the last antenodal and the first two postnodals not continuous, cells of the postnodal area simple, triangle rather long and narrow, traversed, on a level with that of the hind wings, and followed by three rows of cells, no supratriangular nervures, one cross nervure in the lower basal cell, subtriangular space consisting of three cells, sectors of the arculus stalked, curved at the extremities, nodal sector with the basal half more or less undulating, subnodal sector a little broken for the last fourth of its length, where it closely approaches the nodal, several of the intermediate cells generally bisected towards the hind margin; hind wings broader than the fore wings, with 10–11 antenodal and 12–15 postnodal nervures, the first two postnodals not continuous, triangle free, followed by three rows of cells, no supratriangular nervures, one cross nervure in the lower basal cell, sectors of the triangle separated at their origin: anal appendages of the male straight, parallel, not much longer than those of the female; legs long, rather stout, hind tibiæ with two rows of about five or six spines.

Type *Libellula vesiculosa*, Fabr.

### Genus 67. Mesothemis.

(Neuration &c., Plate LVII. figs. 4, 4 *a*.)

Hagen, Neur. N. Amer. p. 170 (1861); Brauer, Verh. zool.-bot. Ges. Wien, xviii. pp. 369, 721 (1868).

Frontal tubercle slightly concave before; eyes contiguous; abdomen moderately stout, hardly as long as the hind wings, segments 2 and 3 laterally thickened, carinated, and segment 4 with a false carina, segment 5 the slenderest, the abdomen being gradually thickened beyond, segment 8 not perfoliate in female, pterostigma long: fore wings with 10–15 antenodal and 9–11 postnodal nervures, the last antenodal and the first two postnodals not continuous, cells of the lower postnodal area simple, triangle rather narrow, traversed, on a level with that of the hind wings, and followed by three rows of cells, no supratriangular nervures, subtriangular space consisting of three cells, sectors of the arculus stalked, curved at the extremities, lower basal cell with one cross nervure, nodal sector undulating at the base, but hardly beyond the middle, which is arched, the cells between the nodal and subnodal sectors generally bisected towards the hind margin; hind wings distinctly broader than the fore wings, with 6–9 antenodal and 9–11 postnodal nervures, the first two postnodals not continuous, triangle open, followed by three rows of cells, no supratriangular nervures, one cross nervure in the lower basal cell, sectors of the triangle distinctly and often widely separated at base: anal appendages of male rather short; spines of legs very strong, especially those on the hind tibiæ (two rows of five to seven) and at the extremity of the hind femora.

Type *Libellula simplicicollis*, Say.

### Genus 68. Micrathyria, g. n.

Frontal tubercle concave or slightly bifid; eyes contiguous; abdomen slender, thickened at the base and tip in both sexes, shorter than, or as long as the hind wings, segment 8 not perfoliate in female: wings and pterostigma rather long; fore wings with 10–11 antenodal and 8–9 postnodal nervures, the last antenodal and the first three postnodals not continuous, cells of the postnodal area simple, triangle moderate, on a level with that of the hind wings, traversed or open, followed by two rows of cells, afterwards increasing to three, nearly to the hind margin (the first row beyond the triangle often consisting of three cells), no supratriangular nervures, one cross nervure in the lower basal cell, subtriangular space consisting of three cells (rarely two), sectors of the arculus stalked, slightly curved at the extremities, nodal sector hardly waved in the middle and not much curved, subnodal sector very slightly irregular beyond the middle, cells between the nodal and subnodal sectors only bisected near the hind margin; hind wings rather broader than the fore wings, with 6–8 antenodal and 7–9 postnodal nervures, the first two postnodals not continuous, triangle free, its base on a level with the arculus, followed by three rows of cells, increasing, no supratriangular nervures, one cross nervure in the lower basal cell, sectors of the triangle widely separated at their origin: spines of the legs slender, moderately long, stiff; claws of the tarsi notched before the tip: anal appendages of the male as long as the eighth segment, or shorter, the lower one a little shorter than the others; appendages of the second segment conspicuous, the hamulus short, recurved.

Type *Libellula didyma*, Selys.

### Genus 69. Erythemis.

(Neuration, Plate LV. fig. 3.)

Hagen, Neur. N. Amer. p. 168 (1860); Brauer, Verh. zool.-bot. Ges. Wien, xviii. pp. 368, 723 (1868).

Frontal tubercle distinctly bifid; eyes contiguous in the middle; abdomen rather short and broad, triquetral, about as long as the hind wings, the basal segments considerably expanded when viewed laterally, but not visibly from above, segments 2 and 3 carinated, segment 8 not perfoliate in female: wings rather short, pterostigma moderate; fore wings with 12 antenodal and 9–11 postnodal nervures, the last antenodal and the first two postnodals not continuous, cells of the postnodal area simple, triangle rather narrow, traversed, on a level with that of the hind wings, and followed by three rows of cells, no supratriangular nervures, one cross nervure in the lower basal cell, subtriangular space consisting of three cells, sectors of the arculus stalked, regularly curved, nodal sector as in *Mesothemis*, the subnodal sector and upper sector of the triangle a little broken for the last fourth of their length, the cells between the nodal and subnodal sectors only bisected close to the hind margin; hind wings slightly broader than the fore wings, with 8–9 antenodal and 9–12 postnodal nervures, the first two postnodals not continuous, triangle free, followed by three rows of cells, no supratriangular nervures, one cross nervure in the lower basal cell, sectors of the triangle widely separated at their origin: anal appendages of male rather short; legs stout, moderately long, femora serrated, with one to three long spines at the extremity, hind tibiæ with about seven pairs of long, straight spines.

Type *Libellula peruviana*, Ramb.

### Genus 70. PACHYDIPLAX.

Brauer, Verh. zool.-bot. Ges. Wien, xviii. pp. 368, 722 (1868).

Frontal tubercle raised, truncated; eyes contiguous; abdomen moderately stout, as long as the hind wings, of nearly equal breadth throughout, segments 2 and 3 carinated, 4 indistinctly, segment 8 not perfoliate in female: pterostigma rather long; fore wings with 6 antenodal and 5–6 postnodal nervures, the last antenodal always continuous, the first two postnodals not so, cells of the costal area simple, triangle rather broad, traversed, on a level with that of the hind wings, followed by three rows of cells, no supratriangular nervures, subtriangular space consisting of three cells, sectors of the arculus stalked, gradually curved, lower basal cell with one cross nervure, nodal and subnodal nervures continuous, the nodal sector undulating, especially at the base, the intermediate cells only bisected towards the hind margin; hind wings broader than the fore wings, with 5 antenodal and 6–7 postnodal nervures, the first two or three postnodals not continuous, triangle rather long, free, followed by two rows of cells, no supratriangular nervure, one cross nervure in the lower basal cell, sectors of the triangle more or less separated: anal appendages of the male moderate, pointed.

Type *Libellula longipennis*, Burm.

### Genus 71. CANNAPHILA, g. n.

Frontal tubercle bifid; eyes contiguous; abdomen moderately stout, triquetral, thickest at the base, but not remarkably, and gradually tapering, about as long as the hind wings, segments 2 and 3 carinated, 4 imperfectly, segment 8 perfoliate in female: wings rather narrow, moderately long, pterostigma long; fore wings with 13–15 antenodal and 9–10 postnodal nervures, the first three postnodals not continuous, cells of the postnodal area sometimes bisected on the hind margin, triangle rather small, placed just beyond that of the hind wings, traversed, followed by two rows of cells increasing, or the first row of three, and then a series of two, one supratriangular nervure sometimes present, one or two cross nervures in the lower basal cell, subtriangular space consisting of three cells, sectors of the arculus stalked, gradually curved, nodal sector slightly waved beyond the middle, subnodal sector nearly continuous, the intermediate cells bisected towards the hind margin; hind wings rather broader than the fore wings, with 10–13 antenodal and 9–10 postnodal nervures, the first two or three postnodals not continuous, triangle free, followed by three rows of cells (sometimes four in the first row) increasing, no supratriangular nervures, two cross nervures in the lower basal cell, membranule very small, sectors of the triangle widely separated: anal appendages of the male not much curved, a little longer than the eighth segment, the lower appendage hardly shorter than the others; appendages of the second segment not conspicuous.

Type *Cannaphila insularis*, sp. n.

The above characters are partly based upon a male from Jamaica, and a female from Guatemala, undoubtedly congeneric with *C. insularis*, but not in sufficiently good condition to describe.

### Genus 72. CACERGATES, g. n.

Frontal tubercle rather broad, a little depressed in the middle; eyes contiguous in front; abdomen moderately stout, considerably thickened at the base, shorter than the hind wings, segments 2–4 carinated, segment 8 not perfoliate in female: wings rather short, pterostigma moderately long, pale or particoloured; fore wings with 8–9 antenodal nervures, the last not continuous, and 6–8 postnodals, the first three or four not continuous, cells of the postnodal area simple, triangle moderate, free, on a level with that of the hind wings, the base straight, followed by three rows of cells, increasing, no supratriangular nervures, one cross nervure in the lower basal cell, subtriangular space consisting of one cell, sectors of the arculus stalked, gradually curved, nodal sector only slightly waved at the base, the subnodal nearly straight, the intermediate cells only bisected close to the hind margin; hind wings broader than the fore wings, with 6–7 antenodal and 7–8 postnodal nervures, the first two or three postnodals not continuous, triangle free, its base nearly coinciding with the arculus, and followed by three rows of cells, increasing, no supratriangular nervures, one cross nervure in the lower basal cell, sectors of the triangle widely separated at their origin: anal appendages of the male as long as the last two segments, considerably depressed, the lower one shorter than the others; appendages of the second segment not conspicuous.

Type *Libellula leucosticta*, Burm.

### Genus 73. CALOTHEMIS.

Selys, Mitth. Mus. Dresd. iii. p. 305 (1878).

Differs from *Orchithemis* as follows:—Abdomen considerably shorter than the hind wings, broader than in *Orchithemis*, and very slightly tapering, especially in the male, eighth segment perfoliate in female: fore wings with the nodal sector more waved and the cells between the nodal and subnodal sectors bisected towards the hind margin, triangle traversed, preceded by one or two supratriangular nervures, two to five cross nervures in the lower basal cell, subtriangular space consisting of three cells; hind wings distinctly broader than the fore wings, triangle traversed, followed by three rows of cells, one or two supratriangular nervures, two or three nervures in the lower basal cell: anal appendages of male as long as the eighth segment, or a little shorter, those of the second segment much less conspicuous than in *Orchithemis*.

Type *Calothemis meyeri*, Selys.

### Genus 74. ORCHITHEMIS.

(Neuration, Plate LVI. fig. 2.)

Brauer, Sitz. Akad. Wiss. Wien, xlvii. p. 196 (1878).

Frontal tubercle bifid; eyes contiguous for a moderately long space; abdomen moderately broad, nearly as long as the hind wings, gradually tapering towards the extremity, the base not remarkably thickened, segments 2 and 3 carinated: wings rather long and narrow, pterostigma moderate; fore wings with 13–14 antenodal and 8–9 postnodal nervures, the first two postnodals not continuous, cells of the postcostal area simple, triangle rather small, free, followed by two rows of cells, only increasing near the hind margin, subtriangular space consisting of from one to three cells, sectors of the arculus stalked, one supratriangular nervure before the triangle, lower basal cell with one cross nervure, nodal sector continuous, hardly curved at base, this and all the other sectors running nearly straight almost to the hind margin, where they curve downwards gradually, the subnodal sector slightly irregular, cells between the nodal and subnodal sectors simple; hind wings hardly broader than the fore wings, with 11–12 antenodal and 8–10 postnodal nervures, the first two subnodals not continuous, triangle traversed, followed by three and then two and more rows of cells, no supratriangular nervure, two nervures in the lower basal cell, sectors of the triangle rather widely separated at their origin: anal appendages of male slender, curved downwards, as long as the ninth segment, the lower appendage nearly as long as the others; appendages of the second segment very conspicuous.

Type *Orchithemis pulcherrima*, Brauer.

### Genus 75. DIPLACODES, g. n.

*Diplacina*, p., Brauer, Verh. zool.-bot. Ges. Wien, xviii. p. 733 (1868).

Frontal tubercle truncated; eyes contiguous; abdomen slender, linear, hardly dilated at the base, about as long as the hind wings, segments 2 and 3 carinated, segment 8 not perfoliate in female; pterostigma rather long: fore wings with 7–9 antenodal and 5–7 postnodal nervures, the last antenodal and the first two or three postnodals not continuous, cells of the subcostal area simple, triangle moderate, nearly always open (when traversed, only by a continuation of the nervure dividing the first two cells), on a level with that of the hind wings, and followed by two rows of cells, no supratriangular nervure, subtriangular space consisting of from one to three cells, when divided it is primarily by a curved nervure cutting off the lower angle, sectors of the arculus stalked, more or less gradually curved, lower basal cell with one cross nervure, nodal sector undulating at the base, subnodal sector very slightly irregular towards the extremity, the intermediate cells only bisected towards the hind margin; hind wings slightly broader than the fore wings, with 5–7 antenodal and 5–7 postnodal nervures, the first two postnodals not continuous, triangle free, followed by three rows of cells, no supratriangular nervure, one cross nervure in the lower basal cell, sectors of the triangle widely separated at their origin: anal appendages of the male short and straight.

Type *Libellula tetra*, Ramb.

This genus will include all the species placed in *Diplacina* by Brauer, except his type, *D. nana*, from the Philippines, which is clearly not congeneric with the others. Several species previously referred to *Diplax* will come better here, such as *Libellula nebulosa*, Fabr. (E. Indies), *Diplax exul*, Selys (S. Africa), and *Lib. minuscula*, Ramb. (S. America). In the smaller species (*Diplacodes minuscula* and *nebulosa*) the triangle of the fore wings occasionally shows a tendency to assume a trapezoidal form, as in *Nannophya*, &c., owing to the lower sector of the arculus sometimes, but only occasionally, falling on the base of the triangle before its extremity.

### Genus 76. DIPLACINA.

Brauer, Verh. zool.-bot. Ges. Wien, xviii. pp. 173, 368, 733 (1868).

Brauer's typical species is not before me; but it differs sufficiently from *Diplacodes* by the following characters:—Fore wings with the pterostigma short and broad, 12 antenodal and 8–9 postnodal nervures, triangle free, followed by first two, then one, and then two or three rows of cells, subtriangular space divided by a curved nervure, one supratriangular nervure.

Type *Diplacina nana*, Brauer.

### Genus 77. ACISOMA.

(Neuration, Plate LVI. fig. 5.)

Rambur, Ins. Névr. p. 28 (1842); Brauer, Verh. zool.-bot. Ges. Wien, xviii. pp. 367, 724 (1868).

Frontal tubercle convex above; eyes contiguous in the middle; abdomen as long as the hind wings, segments 2–4 carinated, segments 1–5 broad, but cylindrical, and not inflated, the remaining segments suddenly tapering, and comparatively slender, segment 8 not perfoliate in female: wings and pterostigma moderately long; fore wings with 6–8 antenodals, the last continuous in the type but not in other species, and 6–8 postnodals, the first two not continuous, cells of the postnodal area simple, triangle moderate, free, on a level with that of the hind wings, and followed by two rows of cells, no supratriangular nervure, one cross nervure in the lower basal cell, subtriangular space consisting of one or three cells, sectors of the arculus stalked, more or less gradually curved, nodal sector undulating at the base, subnodal continuous, the intermediate cells only bisected (if at all) on the extreme margin; hind wings only slightly broader than the fore wings, with 5–7 antenodals and 6–8 postnodals, the first two postnodals not continuous, triangle open, followed by three rows of cells, no supratriangular nervures, one cross nervure in the lower basal cell, sectors of the triangle widely separated at their origin: anal appendages of the male hardly longer than those of the female; four hind tibiæ armed with a double row of about seven strong spines.

Type *Acisoma ascalaphoides*, Ramb.

Although there is an Indian species which agrees with Rambur's description of *A. panorpoides*, yet I have not ventured to select it as the type of the genus, as I would have preferred to do, because Rambur figures as well as describes it, and he distinctly represents his insect with four cross nervures in the lower basal cell of the fore wings; if this is correct, it cannot be congeneric with the other species.

There are several doubtful forms from Africa and Madagascar, in all of which (with the exception of a specimen which I regard as the true *A. ascalaphoides* of Rambur) the last antenodal is not continuous. Only one of these is sufficiently well marked for me to venture to describe without more extensive materials then I at present possess.

### Genus 78. NEOPHLEBIA.

Selys, in Pollen & Van Dam, Faune Madag., Ins. p. 18 (1869); Mitth. Mus. Dresd. iii. p. 315 (1878).

Resembles *Tetrathemis*, but the fore wings have ten antenodal nervures, the last not continuous, and one supratriangular nervure, the lower median cell has one cross nervure on the fore wings and two on the hind wings; the hind wings have no supratriangular nervure, and the wings are partly opaque, at least in the adult male.

Type *Neophlebia polleni*, Selys.

### Genus 79. TETRATHEMIS.

(Plate LII. fig. 4; neuration, Plate LVI. fig. 8.)

Brauer, Verh. zool.-bot. Ges. Wien, xviii. pp. 182, 369, 727 (1868).

Frontal tubercle rounded; eyes large, contiguous in front; abdomen longer than the hind wings and rather slender, second segment considerably dilated at the base, segments 2 and 3 indistinctly carinated, segment 8 not perfoliate in female: wings long and narrow, pterostigma thick, more than twice as long as broad; fore wings with 7–9 antenodal and 5–7 postnodal nervures, the first (or first and second) postnodal not continuous, cells of the postnodal area simple, triangle converted into a trapezium by the lower sector of the arculus striking an angle in the middle of its upper side, small, traversed, followed by one row of cells, subtriangular space consisting of a single, large, cone-shaped cell, with the apex directed outwards, its base nearly coinciding with a line descending from the lower sector of the arculus just beyond its origin, and corresponding to a supratriangular nervure, sectors of the arculus with a very long stalk, and almost straight, lower basal cell with from one to four cross nervures, nodal sector only waved at base, intermediate cells between the nodal and subnodal sectors only bisected on the hind margin, no closed cells below the lower sector of the triangle; hind wings slightly broader than the fore wings, with 6–8 antenodal and 5–6 postnodal nervures, the first postnodal not continuous, triangle free, followed by two (or three) rows of cells, increasing, a supratriangular nervure nearly always present, two to four cross nervures in the lower basal cell, sectors of the triangle distinctly separated at their origin: anal appendages of the male short, rather slender, and curved downwards.

Type *Tetrathemis irregularis*, Brauer.

In the case of aberrant genera like this, it is often necessary to place several rather dissimilar forms together until they are better known, and the limits of their variation can be more positively ascertained.

### Genus 80. BRACHYGONIA, g. n.

Frontal tubercle rounded; eyes large, contiguous in front; abdomen nearly as long as the hind wings, moderately slender and slightly tapering, segments 2 and 3 carinated: wings rather long and narrow, pterostigma moderate; fore wings with 6–7 antenodal and 5 postnodal nervures, the first two (rarely three) postnodals not continuous, cells of the postnodal area simple, triangle converted into a trapezium, the outer angle being truncated, but very slightly, free, followed by two rows of cells, separated by a line zigzag to the middle of the wing, and then nearly continuous, no supratriangular nervures, subtriangular space consisting of one cell (rarely divided by a curved line), sectors of the arculus stalked, very slightly curved, lower basal cell with one cross nervure, the nodal sector hardly waved, even at the base, the subnodal sector more or less irregular beyond the middle, cells between the nodal and subnodal cells simple, no closed cells below the lower sector of the triangle; hind wings not much broader than the fore wings, with 5 antenodal and postnodal nervures, the first two postnodals not continuous, triangle free, very short, its base halfway between its apex and the arculus, followed by two rows of cells, no supratriangular nervures, one cross nervure in the lower basal cell: anal appendages of male slender, as long as the eighth segment, the lower segment nearly as long as the upper ones, sectors of the triangle separated by at least half the length of its outer side, or more; appendages of the second segment distinct, not very prominent.

Type *Tetrathemis oculata*, Brauer.

In all the specimens of the male the abdominal segments 2 (behind the carina), 3, and 4 to the middle are dusted with pale blue. This is absent in the only female specimen.

### Genus 81. NEPHEPELTIA, g. n.

Allied to *Nannothemis*, but the middle segments of the abdomen very long and slender, the basal and terminal segments (especially the seventh and eighth) much dilated; the hinder part of the pectus with a very strong spine, pointing backwards; upper anal appendages in the male longer than the eighth segment, depressed and recurved, the lower appendage only half as long as the others; appendages of the second segment very prominent: fore wings with 6 antenodal and 5 postnodal nervures; hind wings with 5 of each, all the first postnodals not continuous; trapezium of fore wings followed by two and then more cells; upper sector rising a little above the lower angle; on the hind wings the upper sector of the triangle rises about the middle of its outer side.

Type *Libellula phryne*, Perty.

### Genus 82. NANNODYTHEMIS.

(Plate LII. fig. 5.)

Brauer, Verh. zool.-bot. Ges. Wien, xviii. pp. 369, 726 (1868).

Frontal tubercle rounded; eyes contiguous in front; abdomen a little thickened at the base, the middle segments slender, and the hinder ones considerably thickened and somewhat flattened, longer than the hind wings, segments 2–4 carinated: pterostigma moderate, a little longer on the hind wings (as is the case to a less extent in the allied genera); fore wings with 5 antenodal and 3–5 postnodal nervures, the first postnodal not continuous, cells of the postcostal area simple, triangle converted into a trapezium, free, followed by two rows of cells, the upper row divided towards the hind margin, no supratriangular nervures, subtriangular space consisting of one cell, sectors of the arculus stalked, the upper sector angulated before the nodus, lower basal cell with one cross nervure, the nodal sector much waved at the base, the other sectors very slightly, the intermediate cells simple, the upper sector of the trapezium rising about the middle of its outer side; hind wings rather broader than the fore wings, with 4 antenodal and 4 postnodal nervures, the first postnodal not continuous, triangle converted into a trapezium, as on the fore wings, followed by two and then more rows of cells, the base of the nodal sector slightly waved, but much less so than on the fore wings, no supratriangular nervures, two cross nervures in the lower basal cell, upper sector of the trapezium rising at about the middle of its longest side: anal appendages of the male very short, a little curved downwards, those of the second segment moderately well developed.

Type *Nannodythemis australis*, Brauer.

### Genus 83. NANNOPHLEBIA.

Selys, Mitth. Mus. Dresd. iii. p. 315 (1878).

Differs from *Nannodythemis* in its larger size, the absence of any supratriangular nervures, and of more than one cross nervure in the lower basal cell, and in the base of the trapezium of the hind wings being formed by the prolongation of the arculus: fore wings with 7 antenodal nervures; hind wings with 6; 5–6 postnodal nervures on all the wings.

Type *Neophlebia lorquini*, Selys.

### Genus 84. NANNODIPLAX.

Brauer, Verh. zool.-bot. Ges. Wien, xviii. pp. 369, 556, 725 (1868).

Frontal tubercle convex; eyes contiguous; abdomen shorter than the hind wings, hardly thickened at the base, segments 2 and 3 carinated: pterostigma short; fore wings with 7 antenodal and 6 postnodal nervures (those not continuous not stated), triangle replaced by a narrow trapezium (broad in all the allied genera), followed by first two and then three rows of cells, subtriangular space consisting of one very narrow cell, sectors of the arculus stalked, nodal sector scarcely waved; hind wings rather broader than the fore wings, the triangle normal.

Type *Nannodiplax rubra*, Brauer.

The characters are compiled from Brauer's description.

### Genus 85. FYLGIA, g. n.

(Plate LI. figs. 2, 3.)

Frontal tubercle rounded; eyes large, contiguous in front; abdomen moderately broad, a little constricted at the base, about as long as the hind wings, segments 2–4 carinated, segment 8 not perfoliate in female: pterostigma moderate; fore wings with 8–10 antenodal nervures, the last not continuous, and 5–6 postnodals, the first not continuous; hind wings with 6–7 antenodals and 5 postnodals, the first postnodal not continuous; fore wings with cells of the postcostal area simple, triangle converted into a trapezium, free, followed by one row of cells almost to the margin, subtriangular space consisting of one cell; sectors of the arculus with a long stalk, the upper sector slightly angulated before the middle, no supratriangular nervures, lower basal cell with one cross nervure, nodal sector only slightly curved at base, cells between the nodal and subnodal sectors simple nearly to the hind margin, upper sector of the triangle rising at its apex in male, just above in female; hind wings with the triangle regular, its base formed by the prolongation of the arculus, followed by three rows of cells, then two, and more, upper sector of the triangle rising at about one third of the distance from the apex: upper anal appendages of the male shorter than the eighth segment, pointed, the lower appendage not much shorter, appendages of the second segment only moderately prominent.

Type *Fylgia amazonica*, sp. n.

### Genus 86. NANNOTHEMIS.

Brauer, Verh. zool.-bot. Ges. Wien, xviii. pp. 369, 726 (1868).
*Nannophya*, Hag. Neur. N. Amer. p. 186 (1861).

Frontal tubercle rounded; eyes large, contiguous in front; abdomen moderately slender, cylindrical, shorter than the hind wings, segments 2–4 carinated, segment 8 not perfoliate in female: pterostigma rather small; fore wings with 6–7 antenodal and 5–6 postnodal nervures, the first postnodal not continuous, cells of the postnodal area simple, triangle converted into a trapezium, open, followed by one row of cells, then two, subtriangular space consisting of one cell, sectors of the arculus with a long stalk, gradually curved, lower basal cell with one cross nervure, nodal sector curved at base, the subnodal slightly irregular, intermediate cells only divided on the hind margin, sectors of the triangle rising together at its apex; hind wings slightly broader than the fore wings, with 5 antenodal and postnodal nervures, the first postnodal not continuous, triangle regular, its base corresponding with the continuation of the arculus, open, followed by two rows of cells, the upper sector rising above the middle of its outer side.

Type *Nannophya bella*, Uhl.

The description of the genus is partly compiled from those of Hagen and Brauer, and partly from *N. sylvia*, sp. n. Hagen's *N. maculosa*, which is described as having 8 antenodals, and first two cells, and then one beyond the triangle, may not be congeneric; the species which seems to represent Hagen's *Nannophya semiaurea* (MS.) certainly is not.

### Genus 87. NANNOPHYA.

(Neuration, Plate LVI. fig. 7.)

Rambur, Ins. Névr. p. 27 (1842); Brauer, Verh. zool.-bot. Ges. Wien, xviii. pp. 369, 726 (1868).

Frontal tubercle rounded; eyes contiguous in front; abdomen moderately slender, hardly thickened at the base, shorter than the hind wings, segments 2 and 3 carinated: pterostigma moderate, about two and a half times as long as broad; fore wings with 6–7 antenodal nervures, the last rarely continuous, and 4–5 postnodals, the first, and sometimes the second also, not continuous, cells of the postcostal area simple, triangle converted into a trapezium, free, followed by one or two rows of cells, no supratriangular nervures, subtriangular space consisting of one cell, sectors of the arculus stalked, the upper sector angulated before the middle, lower basal cell with one cross nervure, nodal and subnodal sectors and lower sector of the arculus regularly curved, cells between the nodal and subnodal sectors simple; hind wings broader than the fore wings, with 4–5 antenodal and 4–6 postnodal nervures, the first postnodal not continuous, triangle large, free, followed by one row of cells (the first cell sometimes divided), and then more, no supratriangular nervure, one cross nervure in the lower basal cell, sectors of the triangle united at their origin: appendages of the second abdominal segment in the male prominent.

Type *Nannophya pygmæa*, Ramb.

### Genus 88. FYLLA, g. n.

(Plate LII. fig. 6.)

Frontal tubercle rounded; eyes contiguous in front; abdomen moderately slender, cylindrical, hardly thickened at the base in the male, and not at all in the female, in which the abdomen is rather stouter, not thickened before the extremity in either sex, and distinctly shorter than the hind wings, segments 2 and 3 carinated, also 4 in female: wings short, rounded, pterostigma small, twice as long as broad; fore wings with 5 antenodal nervures and 4 postnodal nervures, the first postnodal not continuous, cells of the postnodal area simple, triangle converted into a trapezium, free, followed by two rows of cells, no supratriangular nervures, subtriangular space consisting of one rather large cell, sectors of the arculus stalked, upper sector angulated before the middle, lower basal cell with one cross nervure, the nodal sector a little waved at the base, the subnodal nearly continuous, and the intermediate cells simple, upper sector of the triangle rising on all the wings about the middle of its outer side; hind wings broader than the fore wings, with 4 antenodal and 4 postnodal nervures, the first postnodal not continuous, triangle free, followed by two rows of cells; no supratriangular nervures, one cross nervure in the lower basal cell: anal appendages of the male slender, as long as the eighth segment, lower appendage nearly straight, as long as the others; appendages of the second segment not very prominent.

Type *Fylla exigua*, sp. n.

## PART IV.

### DESCRIPTIONS OF NEW SPECIES.

HYDROBASILEUS VITTATUS. (Plate LI. fig. 10.)

*Tramea quadrivittata,* Hag. MS.

Long. corp. 47 millim.; exp. al. 76 millim.; long. pter. 3 millim.

*Male.*—Head dull red, the upper part of the front deeply excavated below the frontal ocellus, and blackish; rhinarium also black. Thorax reddish above; pleura yellowish green, with black sutural lines. Abdomen with transverse carinæ on the first three segments, which are red, with black dorsal and lateral carinæ and sutures, beyond this point black extends more and more over the abdomen, till on the sixth segment there are only two red dots in the middle and a small red streak on each side, the remaining segments (above) and appendages are quite black; on the under surface the abdomen is black, with a long pale yellow stripe on each side of all the segments. Anal appendages about as long as the last two segments, upper appendages arched and bristly, lower appendage nearly as long as the others, stout, conical, and slightly curved up at the tip. Wings rather long and narrow; fore wings with 16 antenodal (one supernumerary) and 8 postnodal nervures; pterostigma rather short and broad, reddish, covering one and a half cells, triangle long and moderately broad, with two transverse nervures, followed by four cells in the first row, and then by three; wings reddish hyaline, with reddish-brown nervures, and a rusty brown band running across the wings just within the nodus, not quite reaching the hind margins nor (in the hind wings) the costa; membranule blackish, slightly bordered with white; base of the inner margin of the hind wings with a rusty brown blotch.

*Hab.* Menado, Celebes (*Wallace*).

Antidythemis trameiformis. (Plate LI. fig. 4.)

*Dythemis* (?) *trameiformis,* Selys, MS.

Long. corp. 48 millim.; exp. al. 100–110 millim.; long. pter. 7 millim.

Rufous, mentum yellow, back of last three abdominal segments above, anal appendages, and tarsi black. Wings yellowish hyaline, iridescent, more strongly tinged with smoky yellow towards the tips, nervures brown or reddish; pterostigma yellow between blackish nervures; hind wings purplish brown at the base to beyond the triangles, this colour projecting at two thirds of the breadth of the wing from the costa, and again upon the hind margin; below the lower basal cell is a vitreous space in the female; in the male two vitreous spaces are visible on the right side only, one below the lower basal cell, and another below the triangle. Anal appendages of male longer than the eighth segment, slightly thickened in the middle, and pointed, the middle one nearly as long as the lateral ones, those of the second segment not conspicuous, the last division globular; anal appendages of female small.

*Hab.* Para.

Tramea darwini. (Plate LI. fig. 1.)

Long. corp. 45 millim.; exp. al. 84 millim.; long. pter. 3½ millim.

*Female.*—Greenish yellow, suture on which the frontal ocellus stands blackish; lower parts of the mouth more inclining to orange; labrum edged below with a black line; pleura with two rather indistinct yellowish stripes. Legs dark brown, pale beneath and at the base of the femora. Abdomen reddish brown, dorsal carina unicolorous, lateral carina black, last three segments black, reddish on the sides at the base; anal appendages reddish brown, nearly as long as the last two segments, nearly straight, slightly approximating, slender, and hairy. Wings very clear hyaline, veins brown, paler towards the costa; pterostigma yellow, enclosed by dark brown nervures, rather longer on the fore wings than on the hind wings; fore wings with 11–12 antenodal and 11–12 postnodal nervures, triangle rather narrow, followed by four rows of cells; hind wings with the membranule white, bordered by a narrow black line, the usual opaque spot beyond unusually small, though varying a little in shape and size.

*Hab.* Galapagos Islands.

The reddish body, clear hyaline wings, and very small opaque spot on the hind wings render this species very distinct from any described American *Tramea.* There are five specimens in the British-Museum collection, but only one in fairly good condition.

Tramea translucida.

Long. corp. (absque app.) 48 millim.; exp. al. 88 millim.; long. pter. 3 millim.

*Female.*—Head pale testaceous yellow in front; frontal tubercle and occipital triangle more waxen, the front of the former above the frontal ocellus reddish brown, shading below into black, in front of the ocellus is a violet-black stripe; rhinarium blackish; mandibles red, black at the base. Thorax extremely villous, testaceous yellow, with black lines on the sutures of the pleura. Legs black; coxæ, trochanters, and base and under surface of the femora reddish; tibiæ with rather long spines. Abdomen yellowish brown, the sutures rather broadly brown, and the upper surface of the last three segments black, the sides yellowish brown; anal appendages destroyed; the two basal segments of the abdomen are clothed beneath (like much of the thorax and especially the pectus) with long grey hairs. Wings clear hyaline, with brown nervures; fore wings with 11–12 antenodal and 10 postnodal nervures; pterostigma rather short, yellow, between slender black nervures; triangle rather large, crossed by one nervure, and followed by four rows of cells; hind wings with a dark brown basal patch, extending as far as the first antenodal nervure and the base of the triangle, occupying the first two subnodal cells, and extending below the lower subnodal sector for three more cells, and then rounded off, terminating at about three fourths of the length of the inner margin. Membranule white, just beyond the membranule is a large hyaline space, running half across the brown patch, the four cells below the lower basal cell are marked with large oval subhyaline spots, and there are pale spots in some of the other dark cells.

*Hab.* North India.

Possibly the female of *T. stylata*, Ramb., to which it is closely allied.

TRAMEA BURMEISTERI.

*Libellula chinensis,* Burm. (nec De Geer), Handb. Ent. ii. p. 852, no. 27 (1839).

Long. corp. 49 millim.; exp. al. 80 millim.; long. pter. 3 millim.

Testaceous yellow. Head yellow; labrum darker, with the extremity blackish. Thorax testaceous; the pleura spotted with black on the sutures. Front legs reddish, striped with black; the four hinder legs blackish, except at the base of the femora. Abdomen testaceous above and more or less blackish below, the sutures broadly black on the sides above, more narrowly on the median line, the last three segments entirely black in the middle above, testaceous at the base on the sides: upper anal appendages reddish, a little shorter than the last three segments, depressed at the base, and then straight; lower appendage short, not much more than one third of the length of the upper ones; appendages of the second segment rather prominent; hamulus long, slender, with a small tooth near the extremity. Wings hyaline, the nervures reddish, or yellowish in male, brown in female; fore wings with 11–14 antenodal and 8–10 postnodal nervures; triangle rather narrow, oblique, crossed by one nervure, and followed by four rows of cells; hind wings with the membranule white, the rest of the base of the hind wing yellow to the second antenodal nervure, as far as the triangle, and along the course of its lower sector and the subbasal sectors, thence curving round to about three fourths of the length of the inner margin of the wing, and thus not extending to the anal angle; more or less of the lower basal cell and part of the wing below adjacent as far as the base of the triangle is filled up by a brown band, which is sometimes continued within the first subbasal sector for a short distance, and then curves round more broadly towards the inner margin, which it does not reach; but it is more frequently detached from the broad brown band which runs from the base of the sector of the triangle nearly to the inner margin. Meshes of the hind wings rather large.

The sexes differ little. The anal appendages in the female are shorter than in the male.

*Hab.* N. India (common), Ceylon.

Nearly allied to the African *T. basilaris*, Beauv., in which, however (judging from the single broken specimen before me), the yellow area on the hind wings is much less extended, and the opaque spaces (of which the upper one is much more extended) are nearly black. It has very little resemblance to *T. chinensis*, De Geer, with which Burmeister confounded it.

TRAMEA MADAGASCARIENSIS.

Long. corp. 50 millim.; exp. al. 96 millim.; long. pter. 3½ millim.

*Male.*—Reddish brown, villous, vertex below the ocellus violet, this colour extending, though paler, to the front of the frontal tubercle, tips of mandibles blackish. Thorax with somewhat indistinct blackish markings on the pleura. Abdomen sometimes with obsolete black lines on the sides of the second and third segments, and obsolete black dots on each side towards the extremities of the following segments above; the last three segments black in the middle above, but more narrowly than usual. Legs black, front femora reddish beneath to the middle; appendages of the second segment very conspicuous, the lateral appendages slender and slightly hooked backwards; anal appendages fully as long as the last three segments, slender, black, with a red basal spot, curved downwards and approximating at the base, then parallel, and again separating a little, and acuminate at the extremity. Wings hyaline, most of the nervures on the costa to beyond the nodus, and at the base up to or beyond the triangles, reddish, the rest black, 12–13 antenodal and 9–10 postnodal nervures; triangles rather long, followed by four rows of cells (five cells first on the left wing), and with two cross nervures (sometimes one); pterostigma yellow, between two black nervures; hind wings with the membranule white, the opaque space (except a slight clouding on the nervures above) commencing with the lower basal cell, only touching the first subbasal sector at its base, and then dropping downwards almost perpendicularly, though slightly indented on each cell, and then curving off gradually towards the anal angle, which it does not quite reach; this opaque space is of the usual reddish-brown colour, with reddish nervures, and is almost entirely uniform, only the edges being rather paler here and there; there is no vitreous space on the inner margin, and there are no pale centres to any of the cells.

*Hab.* Betsileo, Madagascar.

Allied to *T. limbata*, Desj., and *erythræa*, Brauer. The only specimen of *Tramea* which we possess from Mauritius has yellowish-hyaline wings with black nervures, a wider band on the hind wings, more dentated on the outside than in *madagascariensis*, and a large vitreous space on the inner margin. It agrees with Rambur's *T. mauriciana*, except that Rambur does not mention the vitreous spot; nor does Desjardin, whose description is very vague, though his species may be regarded as identical with Rambur's insect. From Rodriguez we have two specimens of *Tramea*; one agrees with the Mauritian specimen of *T. linbata*, just mentioned, and the other is a new species (allied to *T. erythræa*, Brauer, which the British Museum does not possess), but which cannot be confounded with any other species on account of the shortness of the anal appendages. It is, however, too much damaged for description.

TRAMEA MADAGASCARIENSIS ♀ (?).

Differs from the male in the shape of the opaque patch of the hind wings, which is very similar to that of the Australian *T. rosenbergii*, Brauer. It extends along the lower basal cell to the point of departure of the first subbasal sector, and then drops downwards, and curves inwards towards the inner margin at hardly two thirds of the length of the wing, but leaving the whole inner margin and even a large space between the band and the lower end of the white membranule free, and several of the cells on the edges of this small dark stripe, which it partially invades, are otherwise yellowish, instead of clear hyaline; the triangle of the fore wings is crossed by two nervures, and is followed by four rows of cells. The anal appendages are nearly as long as in the male, black, with the base reddish, straight, and slightly convergent.

It is possible that this insect is the female of an allied species; but it so closely resembles the male of *T. madagascariensis* that I should hesitate to describe it as new, unless the arrival of more specimens should show that the difference in the shape of the dark band of the hind wing is constant in both sexes of each.

MIATHYRIA PUSILLA. (Plate LII. fig. 3.)

Long. corp. 28–30 millim.; exp. al. 55–60 millim.; long. pter. 2 millim.

Reddish testaceous, sides of the thorax probably varied with yellowish and black markings in fresh specimens. Abdomen with a black spot at the end of the third and following segments of the abdomen above, sometimes coalescing into a continuous black dorsal stripe. Legs reddish brown, more or less of the femora, especially beneath, dull yellow. Wings clear hyaline with brown or reddish nervures; pterostigma dirty white; fore wings with 7 antenodal and 5 postnodal nervures; hind wings with 4 antenodal and 6–7 postnodal nervures; hind wings with a brown blotch (in which the nervures are white) at the base, beyond the pure white membranule, but not extending to the anal angle; between the membranule and the bltoch are one or two nearly colourless cells.

*Hab.* Santarem, Tapajos.

Rhyothemis apicalis. (Plate LI. fig. 5.)

Long. corp. 28 millim.; exp. al. 60 millim.; long. pter. 2½ millim.

*Female.*—Head metallic green above, coarsely punctured, black behind and beneath, the ocelli, the under surface of the front, and the rhinarium testaceous. Thorax with brassy-green reflexions. Abdomen black, with brassy-green reflexions on the sides, but much less distinct than on the thorax. Legs dull black. Wings clouded hyaline, yellowish on the basal third and on the costa; pterostigma black, the apex of all the wings beyond smoky brown; fore wings with 11 antenodal and 10–11 postnodal nervures; sectors of the arculus not stalked; triangle rather wide, crossed by one nervure, and followed by four rows of cells; subtriangular space consisting of 4–5 cells, a series of small, almost connected, reddish-brown spots extends along the antenodal cross nervures, filling up the first space from just beyond the sixth to the eighth, where it expands into a large blotch, irregular on both sides, extending from the costa to the upper sector of the arculus beyond the nodus; there is a smaller irregular blotch occupying the upper cell of the triangle, extending above it towards the base for a short distance below the lower sector of the arculus; it also projects a little below the transverse nervure of the triangle. On the hind wings the base, to two fifths of the width of the wing, is covered with a large irregular blotch, which extends to beyond the nodus, though relieved by a yellowish interrupted line on the costa to the fifth antenodal cross nervure, yellowish spaces in the upper basal cell and beyond, and a series of three or four paler spots at about two thirds of the length of the basal blotch. From the inner margin runs another broad reddish-brown blotch to nearly one third of the length of the wing; the space between this and the upper blotch, and the narrower space between the lower blotch and the hind margin, are decidedly yellowish.

*Hab.* New Hebrides.

Perhaps nearest to *R. dispar*, Brauer, but very distinct from any described species.

Rhyothemis triangularis.

Long. corp. 27 millim.; exp. al. 52 millim.; long. pter. 1½ millim.

*Male.*—Greenish black, vertex and back of thorax steel-blue, clypeus and labrum reddish. Legs blackish, set with long slender bristles. Wings dark brown towards the base, with violet reflexions, the centre of most of the cells towards the costa rather lighter; fore wings with one or two cross nervures in the triangle, followed by three rows of cells (sometimes four in the first row), 8 antenodal and 8 or 9 postnodal nervures, the last antenodal and the first three postnodals not continuous; subtriangular space consisting of 3–4 cells. On the fore wings the opaque portion extends to between the fourth and fifth antenodal cross nervure, and its outline coincides very nearly with the outer side of the triangle; above the triangle there are two slight projections, and below the triangle the opaque portion runs straight down very nearly to the inner margin, but turns a little towards the base just before reaching it. On the hind wings the opaque portion extends to the nodus, the centre of the last antenodal cells, however, being clear; its outline runs down to the hind margin nearly below the last antenodal cross nervure, but with two irregular dentated projections in the middle. Pterostigma short, black, about twice as long as broad. The transparent portion of the wings is iridescent hyaline, especially beyond the middle of the wings. Anal appendages of ordinary form, about as long as the last two segments of the abdomen.

*Hab.* Borneo.

Allied to *R. semihyalina*, Desj., from Mauritius, and *R. resplendens*, Selys, from Australia and New Guinea; but (apart from other differences) the transparent portion of the wings is clear hyaline in these species.

One male has the opaque part of the wings black, shading into greenish and deep violet, and less extended, ceasing beyond the third antenodal cross nervure on the fore wings, and only extending to the triangle (which it does not invade) at the inner and upper angle; on the hind wings it ceases at the last nervure before the nodus. It is probably a variety, but may be distinct, as the anal appendages seem rather shorter than in typical specimens.

RHYOTHEMIS CUPRINA. (Plate LI. fig. 6.)

Long. corp. 25 millim.; exp. al. 52 millim.; long. pter. 2 millim.

*Female.*—Head violet above, reddish below, clothed with long hair in front, rhinarium black. Thorax clothed with long grey hair, coppery green above and reddish below. Legs long and slender, reddish brown, darkest on the tibiæ. Abdomen violet-black above, with slight coppery-green reflexions on the sides, and reddish beneath. Wings brown, with a strong coppery iridescence, the principal nervures brown, most of the cross nervures coppery green; pterostigma concolorous, but the apex of the fore wings beyond, as far as the subnodal sector, an irregular space occupying the first two subnodal cells, and descending as far as the upper sector of the arculus, a small spot just beyond the apex of the triangle, several cells below, on the inner margin, and a spot on the hind margin at the extremity of the sectors of the arculus, clear hyaline; several of the cells near the costa and base are likewise slightly marked with paler in the middle. On the hind wings the transparent space beyond the nodus does not extend to the costa, and that at the apex is smaller, semicircularly scooped out on the costa from just beyond the pterostigma to the apex; from the inner margin beyond the grey membranule run two rows of subhyaline spots, slightly converging, and ceasing a little before and nearly below the triangle; beyond the lower row are two more spots placed obliquely downwards in the direction of the hind margin; besides these there are three or four more distinctly hyaline and larger spots above the upper sector of the triangle, beyond the first row of discoidal cells; all the cells on the hind margin, between the anal angle and the extremities of the sectors of the arculus, are likewise subhyaline. Neuration somewhat irregular, but very similar to that of *R. notata*, Fabr., to which this species is closely allied; fore wings with 8 antenodal and 7 subnodal nervures, triangle rather broad, crossed by two nervures on one side and by three on the other (in the latter, the second cell from the tip is longitudinally bisected), and followed by five rows of discoidal cells (first row on one side of four only). Subtriangular space consisting of eight cells. Anal appendages short but distinct, slightly curving upwards, and acuminate.

*Hab.* Sierra Leone.

RHYOTHEMIS OBSOLESCENS.

Long. corp. 24 millim.; exp. al. 46 millim.; long. pter. 2 millim.

*Male.*—Allied to *R. fulgens*, but with the wings, especially the hind wings, rather longer and narrower. Upper part of the head and labium bronzed, face otherwise testaceous. Thorax and abdomen blue-black. Legs wanting. Appendages of the second segment of the abdomen not prominent. Upper anal appendages rather shorter than the last two segments, slender at the base, curving downwards, thickened at the extremity, and not sharply pointed. Lower appendage three fourths as long as the other, very slender, curving upwards, and with a very conspicuous excrescence on the upper surface, just before the middle. Wings brown, slightly iridescent; fore wings with 8 antenodal and 5 postnodal nervures (the last antenodal nervure is not continuous, but there are, nevertheless, 8 in the lower space, where an additional nervure is intercalated between the fourth and fifth). The antenodal nervures of both the subcostal spaces of the fore wings form the diagonals of nearly square dark spots, set obliquely to the costa. Beyond the nodus, the spaces before the third postnodal nervure, and the spaces below, to beyond the subnodal sector, form a large pale triangle; and all the cells around the pterostigma, and between the postnodal nervures of the upper space, and the last two nervures of the lower space are likewise paler. On the hind wings the costal markings are nearly similar, but the hind margin is pale from the anal angle to just beyond the subnodal sector, and there are two pale bars running from the middle of the inner margin to about one seventh of the length of the wing, the uppermost nearly straight, the lower one narrower, curved upwards, and with a third short pale streak below its inner extremity; a little beyond the triangle is likewise an ill-defined pale space. Triangle of the fore wings divided by two nervures, and followed by five rows of cells (four in the first row on one side, owing to the disappearance of a nervure). Subtriangular space consisting of six cells.

*Hab.* Borneo.

This species is interesting as forming a connecting link between the sections represented by *R. phyllis*, Selys, and *R. pygmæa*, Brauer. The pale markings in *R. obsolescens* correspond to the yellow markings of the hind wings in the former group.

RHYOTHEMIS FULGENS.

*Rhyothemis fulgens,* Selys, Mitth. Mus. Dresd. iii. p. 300 (1878), not described.

Long. corp. 26 millim.; exp. al. 42 millim.; long. pter. 2 millim.

*Male.*—Allied to *R. pygmæa,* Brauer, from New Guinea, and almost exactly agreeing with it in dimensions. Head steel-blue, thorax and abdomen coppery green, both the head and thorax villous. Wings brownish hyaline, iridescent, with coppery-green and fiery-red reflections, the submarginal cells just beyond the nodus rather paler than the rest of the wing; fore wings with 8 antenodal and 6 postnodal nervures, the last antenodal and the first two or three postnodals not continuous; triangle of the fore wings with two transverse nervures, and followed by four rows of discoidal cells. Subtriangular space consisting of 5–6 cells. Legs reddish, spiny. Appendages of the second segment rather prominent, hairy; hamulus very slender, recurved; upper anal appendages as long as the last segment, hairy, curved dowwards in the middle, and then straight; lower appendage about two thirds as long as the upper. Another specimen, a male, possibly belonging to the same species, is darker and less shining; the head and thorax are steel-blue, and the abdomen is nearly black.

*Hab.* Sarawak.

Evidently closely allied to *R. pygmæa,* Brauer, from Papua, but that species is described as having nine antenodal and eight postnodal cross nervures on the fore wings, and as having the triangle of the fore wings divided by one nervure only.

NEUROTHEMIS DISPARILIS[1]. (Plate LIV. fig. 8.)

Long. corp. 30 millim.; exp. al. 42–56 millim.; long. pter. 3 millim.

*Male.*—Reddish brown. Abdomen with longitudinal black spots on the sides of segments 3–7 and on the back of the two following segments. Wings hyaline, suffused with yellow or chestnut-brown from the base to beyond the triangle, and occasionally as far as the nodus, the first costal space and upper basal cell clearer; pterostigma yellow between black nervures; fore wings with 14 antenodal (12–14 in female) and 9–11 postnodal nervures, the last antenodal and first three postnodals not continuous; triangle composed of three to seven cells (in female sometimes only one cross nervure), and followed by four or five rows of cells: subtriangular space composed of six to ten cells; nodal and subnodal sectors continuous, the former arched, the last three or four cells between the nodal and subnodal sectors, and between the sectors of the arculus generally, bisected, and sometimes one or two other cells irregularly in addition; hind wings with 8–11 antenodal and 9–11 postnodal nervures, the first three

---

[1] Among the Odonata obtained by Mr. C. M. Woodford in the Solomon Islands is a long series of a species which appears to be identical with *Neurothemis innominata,* Brauer, which Brauer subsequently regarded as a form of *N. oculata,* Fabr. It varies very little in either sex.

I have taken the present opportunity to describe three new species of Libellulinæ taken by Mr. Woodford in the Solomon Islands. A fuller account of the Odonata of these islands may possibly appear when larger materials are received.

postnodals and occasionally the last antenodal not continuous, triangle followed by three cells, traversed by one or two nervures, a supratriangular nervure generally present, two or three cross nervures in the lower basal cell: anal appendages as long as the ninth segment, a little curved upwards at the tips, and pointed, the lower one nearly as long as the lateral ones; those of the second segment not conspicuous.

*Female.*—More yellow, with the black spots on the abdomen more distinct. Wings hyaline, slightly tinged with yellow along the costa as far as the nodus, and more distinctly towards the anal angle; neuration nearly as in the male.

*Hab.* Borneo.

Allied to *Libellula fluctuans*, Fabr., also a very common insect in Borneo; but in all the specimens of *L. stigmatizans* and *L. fluctuans* before me there is a double row of cells between the nodal and subnodal sectors for almost their entire length, or even three or four in some of the closely allied forms which authors class under these species. As the neuration appears to be fairly constant in a good series of both sexes of *N. disparilis*, I regard it as a perfectly good species, notwithstanding the peculiar difficulties of variation and dimorphism alleged to exist in the genus *Neurothemis*. It is also allied to *N. degener*, Selys, from India, which differs in having only three cells in the subtriangular space.

NEUROTHEMIS AFFINIS. (Plate LIV. fig. 2.)

Long. corp. 41 millim.; exp. al. 60 millim.; long. pter. 5½ millim.

*Male.*—Inky black, only the frontal ocellus, the mandibles, and the anal appendages yellowish. Abdomen much longer and more slender in proportion than in *N. tullia*, Drury. Wings dark violet-brown from the base to two fifths of the distance between the nodus and the pterostigma, the remainder clear hyaline; fore wings with the costa very narrowly edged below with hyaline from the base nearly to the nodus, and the subcostal nervure similarly edged below from the base to half the distance to the level of the nodus; most of the cells with paler centres; the upper basal cell also subhyaline; pterostigma very long and rather broad, 12–13 antenodal and 10 postnodal nervures, the last antenodal and first two or three postnodals not continuous; triangle moderate, traversed by a nervure, and followed by three cells. Subtriangular space consisting of four cells. The hind wings appear darker than the fore wings, owing to their cells not being centred with paler.

*Hab.* Barang.

Very close to *N. tullia*, but can hardly be a variety. The latter species is very constant, only varying a little in size and depth of colour. The description of *N. decora*, Brauer, from Amboina, somewhat resembles this, but has a milk-white band between the dark space and the pterostigma, and 18–20 antenodal and 11–13 postnodal nervures, besides other differences. Brauer now refers his *N. decora* to *palliata*, Ramb., itself hardly distinct from *N. fluctuans*, Fabr.

PERITHEMIS BELLA. (Plate LI. figs. 8 ♂, 9 ♀.)

*Perithemis bella,* Hag. MS. (?).

Long. corp. 23 millim.; exp. al. 34 millim.; long. pter. 2½ millim.

*Male.*—Body brown, the face, the pleura, and the sides of the base of the abdomen yellowish; thorax with a central reddish stripe, and broader oblique ones on each side just before the base of the fore wings; the first three segments are paler above (though less conspicuously than below) and segments 2–4 carinated, a double row of small dark spots (sometimes expanding into blotches at the base) runs down the back of the abdomen, the carinated segments being marked with two on each side, and the others with one only; the dorsal and lateral carinæ are black. Fore wings hyaline, more or less deeply yellow at the base to beyond the triangles, on both the upper and lower antenodal to the nodus, and from the nodus to the pterostigma on the first postnodal space only; pterostigma red, bounded below only by a black line, the neuration of the rest of the wings is mostly brown. Hind wings wholly yellow, pterostigma as above; membranule white, narrowly edged with black. Fore wings with 7 antenodal and 4 or 5 postnodal nervures; triangle rather wide, open or traversed, followed by two or three rows of cells, subtriangular space consisting of three cells; hind wings with the triangle open. The abdomen is shorter and flatter than in *P. domitia*, Drury, and considerably widened in the middle. Anal appendages about as long as the ninth segment.

*Female.*—Brown, face, pleura, and base of abdomen beneath dull white rather than yellowish, the thorax with the reddish markings much extended, leaving only a broad yellowish stripe on each side above, the abdomen greatly constricted at the base, and much flattened and widened in the middle, narrowing again towards the tip, brown, blackish in the middle, with a row of long, slightly constricted spots or short yellowish stripes on most of the segments on each side of the black dorsal carina; wings with the nervures brown, the costa blackish, pterostigma brownish yellow, enclosed by blackish nervures; all the triangles open, that of the fore wings followed by two rows of cells; subtriangular space consisting of one cell only. Wings hyaline, lower antenodal space yellow, spotted with brown on several of the cross nervures; a brown spot, partly bordered with yellow, covers the nodus; hind wings hyaline at base and tip, more or less of the middle of the wing yellow from the costa to the hind margin; a brown spot on the nodus, extending towards the pterostigma, and sometimes a brown shade in the middle of the yellow portion of the wing.

*Hab.* Santarem.

PERITHEMIS THAIS.

*Perithemis thais,* Hag. MS.

Long. corp. 15 millim.; exp. al. 34–38 millim.; long. pter. 2–2½ millim.

Head yellow, shading into greenish on the vertex. Thorax greenish yellow, with a rather broad rusty band on the middle above, and a stripe of the same colour on the pleura, above the middle pair of legs. Abdomen with the sides nearly parallel in both sexes, with dorsal and clateral arinæ, and transverse carinæ on segments 2–4, brown, the dorsal and sometimes the lateral carinæ black, the first and ninth segments black above, and the others with a broad black stripe on each side above, only divided by the sutures and the transverse carinæ; appendages short, reddish in the male, black in the female. Wings yellow, with brown and light yellow nervures, pterostigma reddish brown; fore wings with more or fewer of the cells between the base and the level of the nodus, except along the costa and about the triangle, subhyaline; above the triangle, and sometimes touching its upper and outer angle, is a brown blotch, varying in size, but not extending to the costa, and one cell beyond the nodus is a transverse brown band, with a projection inwards below the costal areas, and extending across the wing to the inner margin; hind wings yellow, the cells at the base, and sometimes some of those below the subcostal nervure, hyaline; lower antenodal costal space between the first and last nervure more or less brown, and an irregular brown band descends from this across the triangle, then growing narrower, and almost interrupted in the middle of the wing, and then widening, and turning inwards towards the anal angle, which it does not reach; just beyond the nodus is a transverse band nearly as on the fore wings, but rather broader, and a little expanded basally where it strikes the hind margin; the apical third of the wing is hyaline, but with a narrow brown border, extending from the yellow part of the wing round the tip nearly to the pterostigma. Membranule very small, white at the base and black on the outside. Fore wings with 8–9 antenodal and 6 postnodal nervures, triangle oblique, not traversed, followed by two rows of cells, subtriangular space consisting of two cells; sectors of the arculus hardly stalked; hind wings with the triangle generally traversed.

*Hab.* Para.

In one female, perhaps more adult than the others, the wings are only slightly vitreous in the basal cells, and the brown border of the hind wings is absent, though the whole apex is rather darker than the rest of the wing. Unfortunately this specimen is without locality.

This species, notwithstanding its resemblance to *Libellula lais*, Perty, is very distinct in neuration, and agrees in all essential characters with the true *Perithemis domitia*, Drury (probably=*metella*, Selys, but apparently quite distinct from the various North-American species which have been regarded as synonymous with *domitia* by Selys and Hagen). Drury's figure was taken from a Jamaican specimen, and although it is rough, and probably represents too many costal nervures, the subtriangular space of the fore wings is distinctly represented as consisting of two cells. I regard a male in the British Museum, from St. Domingo, as probably Drury's species (7 antenodal and 5 postnodal nervures). Another specimen, without head, and with no locality label, may be the female; the abdomen is cylindrical and subparallel, and the wings are yellow from the base to beyond the nodus, and on the upper costal spaces to the pterostigma, and there is a brown spot over the lower extremity of the nodal vein; the apical third of the wing is clear hyaline, and the tip of the hind wing is slightly brownish. This is the only other specimen in the British Museum which agrees with the supposed *P. domitia*, from St. Domingo, in neuration, but there are others, from Jamaica, in the Dublin Museum.

PERITHEMIS INTENSA. (Plate LI. fig. 7.)

Long. corp. 25 millim.; exp. al. 40 millim.; long. pter. 3 millim.

*Male.*—Brown (colours of body altered); pleura greenish, two black dots at the extremity of most of the segments of the abdomen above; anal appendages black, moderately long, the upper appendages depressed, not much longer than the lower. Wings deep brownish-yellow, the basal cells and several of the cells in the first antenodal costal space of the fore wings clearer, nervures reddish; pterostigma red, rather long (slightly longer on the hind wings than on the fore wings); fore wings with 8 antenodal and 6–7 postnodal nervures; triangle very large for the size of the insect, and very oblique, the upper and basal sides being of equal length, and the outer side longer, divided by two transverse nervures, and the upper cell bisected; triangle followed by three and four or four and three rows of discoidal cells; subtriangular space consisting of three cells; hind wings with the triangle traversed by one nervure; membranule small, white.

*Hab.* Mexico.

CELITHEMIS FASCIATA. (Plate LII. fig. 2.)

Long. corp. 34 millim.; exp. al. 60 millim.; long. pter. $3\frac{1}{2}$ millim.

*Male* (mature).—Black, vertex violet, occipital triangle reddish, face reddish, sides and rhinarium dull yellow, labium clear yellow, except the sutures; pleura, base of abdomen at sides, and legs dark reddish brown; pleural sutures indistinctly black. Wings with 7–8 antenodal and 7–8 postnodal nervures; triangle rather broad, crossed by one or two nervures, and followed first by four and then by three rows of cells; pterostigma reddish brown, enclosed by black nervures; fore wings with the apex brown from the middle of the pterostigma, and with a brown band extending on the costa from the second or third postnodal nervure nearly to the pterostigma, and transversely across the wing nearly to the hind margin, on the outer side it is excavated between the subcostal nervure and nodal sector; the first antenodal space is yellowish, and the second is filled up by a brown basal streak, invading the first space towards its extremity, this is connected with a transverse band running rather irregularly towards the inner margin, extending from the vein of the nodus (between which and the lower sector of the arculus it is excavated on the outside, on the disk it is excavated on the inside) to the base of the nodal sector, and throwing off a branch towards the base between the sectors of the arculus nearly to their origin, which is again connected with another blotch covering the upper part of the triangle and part of the upper cells of the inner triangle, and throwing off another branch towards the base nearly to the cross nervule of the lower basal cell; on the hind wings the apical patch and the middle band differ only in being more extended; the basal markings extend to the level of the nodus, and consist of a bar filling the lower antenodal costal space and the lower part of the first, a broader one extending from the membranule (which is white, with a black line in the centre) which narrows outwards, but covers the lower basal cell and the triangle, and then fills up the space between the sectors of the arculus, and fills up the space to the vein of the nodus; and from the outer side of these confluent basal stripes a band descends nearly to the hind margin, and then turns inwards, again expanding towards the inner margin, but touching neither margin; the enclosed space is of a slightly yellowish hyaline. Appendages nearly as in *C. elisa*, Hag., to which this species is allied, but the anal appendages are longer and black, and the upper ones form a more distinct angle beneath before the extremity.

*Immature male.*—Head yellow, violet above, the mandibles and the suture of the labium reddish. Thorax reddish brown above, with a yellow stripe on each side; the sides yellow, with two oblique brown stripes connected above. Abdomen black, shading into reddish brown at the base, with longitudinal yellow dorsal spots on segments 3–7, and with three yellow spots on the side of the first segment, followed by a series of four on the sides of segments 2–4, ending in two small dots at the base of the fifth. Wings paler, the dark markings less extended, and more interrupted by transparent spaces; the band on the hind wings is broadly interrupted opposite to the hind margin, so that the large spot near the inner margin is entirely disconnected; all the secondary nervures on and between the dark basal markings of the hind wing are distinctly yellow, which is much less conspicuous in the mature specimen.

*Hab.* Georgia.

SYMPETRUM PALLIDINERVIS. (Neuration, Plate LV. fig. 4.)

Long. corp. 35–37 millim.; exp. al. 63–67 millim.; long. pter. 2½–3 millim.

Head yellow, vertex violet in the male; mandibles and suture of the labium black; occipital triangle brown in the female, the vertex is concolorous, except that the frontal suture is black or bronze; male with the prothorax yellow above, with a central dark stripe bisected with yellow; a slender reddish-brown stripe on the pleura before the wings, and three large black sutural stripes on the pleura. Metathorax tessellated with yellow and reddish brown. Abdomen black, the first three segments yellow on the sides, the second with an oval yellow spot on each side above, behind the carina, and the remainder with a long yellow spot on each segment, visible from above, as far as the eighth, tenth segment sometimes partly yellow; anal appendages a little shorter than the ninth and tenth segments together, pale yellow, tipped with black. Fore wings with 9 antenodal and 8 postnodal nervures, the last antenodal and the first three postnodals not continuous; pterostigma smoky brown, sometimes a little paler at the ends, between black nervures; triangle ordinary, followed by three rows of cells; hind wings hyaline, slightly tinged with yellow at the base, and occasionally on the disk, and with reddish nervures, towards the margins the nervures shade into brown, the subcostal nervure being conspicuously dark on all the wings throughout its whole length in the female, and beyond the nodus in the male. Hind wings with 6 antenodal and 9 postnodal nervures, the first three postnodals not continuous; triangle followed by two rows of cells.

*Hab.* India.

Appears to be a common species. Somewhat resembles the European *S. striolatum*, &c.

TRITHEMIS RUBRA.

Long. corp. 32 millim.; exp. al. 50–56 millim.; long. pter. 2–3 millim.

Bright red, the prothorax marked with a conspicuous black spot on each side above the base, opposite the head, and the upper part of the suture below the front wings also marked with black. Abdomen slightly thickened at the base, moderately broad, the dorsal carina very strongly marked, especially towards the tip; anal appendages of the male rather longer than the ninth segment, the lower one not much shorter than the others, those of the second segment not very conspicuous. Wings hyaline, a little tinged with yellow in some of the cells at the base; nervures red, 9 antenodals, the last not continuous, on the fore wings, and 6 on the hind wings, 5 or 6 postnodals, the first two or three not continuous; pterostigma variable in length, yellow between black nervures.

*Hab.* Australia and New Hebrides.

TRITHEMIS (?) ATTENUATA. (Plate LIII. fig. 2.)

Long. corp. 30–35 millim.; exp. al. 44–53 millim.; long. pter. 2–2½ millim.

Face reddish tawny or yellowish, the frontal tubercle and summit of clypeus coppery green. Head black behind, with small yellow spots behind the eyes and behind the occipital triangle. Thorax black, sides often more or less reticulated with yellow, and pruinose above in male, or yellow with slender reddish lines in female. Legs black, base of the femora tawny. Abdomen black, slender, gradually thickened at base and tip, basal segment more or less transversely banded with yellow, segments 4–7 with longitudinal stripes on the sides, longest and united at the base on segments 4 and 5, and broadest and united broadly behind on the back, but not reaching the hinder suture, on segments 6 and 7; anal appendages yellow, slightly tipped with black. Fore wings with 10–11 antenodal nervures and 9–11 postnodal nervures, the last antenodal and the first two postnodals not continuous; triangle traversed, followed by one or two rows of three cells, and then a series of two increasing, rarely three throughout; hind wings with 8–9 antenodal and 9–10 postnodal nervures, the first two postnodals not continuous; triangle followed by three cells, increasing, the upper sector rising a little before the apex, and distinctly separated from the lower, which is not the case in typical *Trithemis*. Wings hyaline, more or less yellow at the base in the female and immature male; in the mature male there is a large roundish brown smoky spot near the centre of each wing, varying in size, and another at the base of the hind wings, which, in the darkest specimens, is suffused with the outer one.

*Hab.* Santarem.

TRITHEMIS (?) LACUSTRIS.

Long. corp. 28 millim.; exp. al. 48 millim.; long. pter. 2 millim.

*Male.*—Red, the upper part of the head rather darker, and coarsely punctured; ocelli conspicuously black; frontal tubercle, cheeks, and lower mouth-parts varied with yellow, pectus rather irregularly spotted with black, and femora black above nearly to the knees. Wings hyaline, with reddish nervures, smoky yellow at the base for more than a third, the colour extending on the hind wings nearly to the nodus; fore wings with 9 antenodal and 7 postnodal cross nervures, the last antenodal and the first three postnodals not continuous; pterostigma rather long, very pale yellow, between thick black nervures, and slightly clouded at the extremity; fore wings with the triangle traversed, followed by three rows of cells, increasing, subtriangular space consisting of two cells; hind wings with 6 antenodal and 6 or 7 postnodal nervures, the first three postnodals not continuous; the triangle followed by two rows of cells, increasing, its sectors rising together.

*Hab.* Wadelai, Central Africa; collected by Emin Pasha[1] on Jan. 27, 1887.

This species has a superficial resemblance to *Trithemis sanguinolenta*, Burm.; but in many characters it resembles the genus *Cacergates*.

BRACHYDIPLAX INDICA. (Plate LIV. fig. 9.)

Long. corp. 29–32 millim.; exp. al. 50–54 millim.; long. pter. 3 millim.

Front and frontal tubercle entirely blue or greenish blue, strongly punctured; face yellow, the extremity of the labrum, the mandibles, except a spot at the base on each side, and the sutures of the labium broadly black; back of the head entirely black, except two small contiguous yellow spots behind the occipital triangle, and a yellow crescent just above the neck. Thorax black above, pruinose in the adult male; the pleura coppery green, marked in the adult male with a yellow spot about the middle, a yellow streak beyond, and the extremity yellow; in the immature male there is a yellow stripe on the side just in front of the wings, extending almost to the back, two stripes, the second interrupted, below the first pair of wings, and the hinder

---

[1] The only other Odonata sent home by Emin Pasha in his last collection belong to *Palpopleura portia*, Dru., *Cacergates leucosticta*, Burm., and *Ischnura senegalensis*, Ramb., three very common and widely distributed African species.

part is yellow, marked with a small coppery-green spot; in the female the yellow colour of the thorax predominates, the middle being broadly black (spotted with yellow between the wings), and the sides marked with four coppery stripes, confluent below; the front of the prothorax and legs black, except the under surface of the front femora in the female. Abdomen with a row of reddish or yellow spots on the sides of segments 2–7 above (divided by the carinæ on segments two and three), and in the female there is a row of smaller spots (mostly obliterated in the male) below the lateral carinæ as far as segment seven. Wings hyaline, very slightly smoky at the base of the hind wings; pterostigma yellow, between black nervures; membranule white, blackish within.

*Hab.* India.

Appears to be a common species.

BRACHYMESIA AUSTRALIS.

Long. corp. 40 millim.; exp. al. 66 millim.; long. pter. 3½ millim.

Head and thorax very hairy, dull greenish, shading into reddish in the middle of the clypeus, near the mouth, and near the coxæ. Legs blackish above and testaceous beneath. Abdomen testaceous brown, segments 7 and 8 marked with a black spot above. Wings hyaline, with brown nervures, the costa a little yellowish; pterostigma yellow, between black nervures; hind wings with the base narrowly tinged with yellow beyond the black membranule.

*Hab.* Sydney.

There is nothing in the shape, size, or colour of this species to distinguish it from any ordinary *Crocothemis* or *Urothemis* at first glance, notwithstanding its very peculiar structure.

DEIELIA FASCIATA. (Plate LIII. fig. 6.)

Long. corp. 39 millim.; exp. al. 70 millim.; long. pter. 3½ millim.

*Female.*—Upper part of the head black, except the frontal tubercle, which is yellow, large, and oval; the frontal ocellus very large and conspicuous, entirely surrounded with black, and the suture deeply hollowed to receive it; back of the head black, spotted with yellow; face almost entirely yellow, punctured; mandibles black; nasus with a deep black puncture on each side; labrum with three black punctures on the basal suture, and the sutures of the labium black. Prothorax broadly brown in the middle, with a yellow stripe on each side. Mesothorax brown above, with rather indistinct transverse bands before and behind the insertion of each wing; pleura yellow, with four broad black bands on the sutures, connected beneath, and with short narrow black lines in the yellow spaces before and behind the last. Abdomen with all the sutures and carinæ black, and a wide black band (only interrupted at the base of the second segment) on each side, broadening from the base of each segment, thus giving the abdomen a tessellated appearance; segment 7 is black above, with a narrow yellow line on each side, 8 and 9 are black, with a transverse yellow line on each side at the extremity; and the anal appendages are dull reddish, the lateral parts being black. Beneath, the abdomen is black, with an irregular and deeply excavated yellow blotch at the base of each segment, and a yellow dot on each side at the extremity. Legs black, the four front coxæ and the front femora beneath yellow. Wings hyaline, with reddish nervures, both the antenodal costal spaces on all the wings, and the base as far as the triangle inclusive on the fore wings, and considerably further on the hind wings deeply tinged with yellow, a smoky cloud runs across each wing just before the pterostigma, which is yellow, banded by black nervures. Accessory membrane white, bordered with black nervures.

*Hab.* Sandwich Islands.

EPHIDATIA AMAZONICA.

Long. corp. 36 millim.; exp. al. 60 millim.; long. pter. 2½ millim.

*Male.*—Head violet, purple above, rufous beneath, the nasus and rhinarium black. Prothorax violet-blue above; mesothorax blue-black; pleura rufous, with three more or less extended greenish-blue stripes. Legs blackish. Abdomen blue-black, the under surface and sides of the first two segments rufous, this colour extending in one specimen to the lateral carinæ of the two following segments. Wings hyaline, with brown nervures; fore wings with 7 antenodal and 5 postnodal nervures; hind wings marked with smoky yellow at the base, but scarcely further than just beyond the cross nervure in the lower basal cell; pterostigma rather short, hardly more than covering one cell, reddish, between black nervures. Anal appendages injured; upper anal appendages as long as the last two segments, bending downwards, and then recurved at tip.

*Hab.* Santarem; another specimen, rather smaller, from Para.

Allied to *E. longipes*, Hag., which is in the British Museum, from Colombia; still nearer, according to Scudder's description, to *E. cubensis*, in which, however, a lateral fuscous band extends the whole length of the abdomen, and the costal nervures are more numerous.

UNTAMO APICALIS. (Plate LIII. fig. 4.)

Long. corp. 33 millim.; exp. al. 60 millim.; long. pter. 3 millim.

*Female.*—Yellowish testaceous; the central and humeral sutures of the thorax and the sutures and carinæ of the abdomen black, the dorsal carina broadly black, and a broadening black lateral stripe coalescing with the dorsal and lateral carinæ on the apical segments, which are almost entirely black; anal appendages yellow. Legs reddish, the femora more or less blackish above. Wings yellowish hyaline; the pterostigma reddish, all the tips with a deep smoky-brown patch extending nearly to the middle of the pterostigma.

*Hab.* Sula.

Lyriothemis frontalis.

Long. corp. 36 millim.; exp. al. 78 millim.; long. pter. 3 millim.

*Female.*—Head: frontal tubercle blue, front metallic green, bordered below and at the sides with yellow, nasus reddish brown, rhinarium ochraceous, the lower mouth-parts and back of the head black, a large yellow spot at the base of the mandibles, and a broad yellow stripe marked with a short black streak from behind just above the middle, behind each eye. Thorax black above, with a short testaceous stripe on each side, and several small testaceous spaces before and between the wings; pleura and pectus testaceous, the sutures narrowly black, and a short black streak on each side of the metasternum. Abdomen red, with all the sutures black, an obsolete interrupted dusky line on each side, two dusky triangular spots on the back of segments 6 and 7, and a continuous blackish band covering the middle of the terminal segments. Wings smoky hyaline; pterostigma dark reddish brown; fore wings with 15 antenodal and 10 postnodal nervures, 1 supratriangular nervure, and 2–3 cross nervures in the lower basal cell; hind wings with 12 antenodal and 10 postnodal nervures, no supratriangular nervures, 3 nervures in the lower basal cell.

*Hab.* Sula.

Lyriothemis braueri. (Plate LIII. fig. 5.)

Long. corp. 38 lines; exp. al. 74 millim.; long. pter. 3½ millim.

*Female.*—Head: frontal tubercle and front metallic green, the back of the frontal tubercle and the lower part of the front shading into violet-blue, sides yellow, the lower parts of the face dark brown, the rhinarium paler reddish brown, back of the head black. Thorax dull yellowish, a broad black band on each shoulder, shading into reddish before the suture, and confluent below with the narrower blackish band on the next suture. Legs black. Abdomen red, only the sutures narrowly black. Wings smoky hyaline, especially at the tips, but with several unsymmetrical clearer spaces; pterostigma blackish brown; fore wings with 18 antenodal and 9–11 postnodal nervures, 1 supratriangular nervure, 3 cross nervures in the lower basal cell; hind wings with 13 antenodal and 10–12 postnodal nervures, 1 supratriangular nervure, and 3 nervures in the lower basal cell.

*Hab.* Sula.

Orthemis flavopicta. (Plate LIV. fig. 1; appendages, Plate LVII. fig. 5.)

Long. corp. 50 millim.; exp. al. 76–82 millim.; long. pter. 5 millim.

Head: frontal tubercle and clypeus above blue; face reddish in the middle, shading into yellowish above and black below, the sides broadly yellow; labium black, the sides broadly yellow, back of the head reddish, shading into black above; the middle of the eyes bordered behind with yellow. Thorax and abdomen reddish above, thorax with slender yellow lines, one on each side of the dorsal line, and one on each shoulder;

between the wings is a broader yellow interrupted dorsal stripe, narrowly continued on the dorsal carina of the abdomen for nearly its whole length; pleura coppery green, a broad oblique yellow stripe beneath the front wings, a short yellow stripe below the base of the hind wings, and a broad yellow horizontal stripe on the metapleura, narrowly continued on as reddish lines on each side of the lateral carinæ of the abdomen nearly to the extremity; there is likewise a pale line on each side of the median line of the abdomen beneath. Legs blackish, femora pale beneath. Wings hyaline, browned at the tips, and with brown pterostigmata; male with the anal appendages as long as the eighth segment, the lower appendage nearly as long as the others, broad and bifid, or rather crescent-shaped at the extremity.

*Hab.* Para.

A longer and more slender insect than *O. ferruginea*, Fabr. The triangle of the fore wings is sometimes on a level with that of the hind wings, and sometimes considerably beyond it, even on opposite sides of the same specimen.

BELONIA FOLIATA. (Plate LIV. fig. 4.)

Long. corp. 45–47 millim.; exp. al. 85 millim.; long. pter. 5½ millim.

*Female.*—Head and thorax greenish, rhinarium reddish, tips of mandibles black, frontal tubercle raised, broad, bifid. Abdomen reddish, with all the carinæ, and the edges of the foliation on the eighth segment, black. Legs reddish; knees, spines, and tarsi black. Wings yellowish hyaline, more clouded towards the tips, base tinged with yellow, chiefly along the lower costal space and in the lower basal cell; all the nervures blackish, except the outside of the costal nervure at the base, pterostigma reddish brown between black nervures, sectors of the arculus very shortly stalked, triangle long and rather narrow, traversed by two or three nervures, and followed by four rows of cells, one supratriangular nervure; hind wings with the triangle traversed by one or two nervures, membranule very small, black.

*Hab.* Mexico.

A male from Guatemala, which appears to belong to this species, is much darker (long. corp. 55 millim.; exp. al. 88 millim.; long. pter. 7 millim.); it has 17–18 antenodal and 14–15 postnodal nervures; there is no yellow at the base, and there is a supratriangular nervure on the hind wings; the appendages are short, about as long as the seventh segment, thickened before the extremity, which is slightly raised and pointed; the lower appendages and those of the second segment are not visible.

This specimen being in bad condition, I have preferred to take a female as typical of the species.

BELONIA UNIFORMIS.

Long. corp. 49 millim.; exp. al. 90 millim.; long. pter. 8 millim.

*Female.*—Closely allied to *B. foliata*, but almost the entire insect reddish brown, with only the tips of the mandibles, the spines on the legs, the under surface of the tarsi, and the claws black. Wings of a slightly yellowish hyaline, with brown nervures; all the principal basal nervures red or reddish brown on the costa as far as the pterostigma, and on the hind wings including all the nervures of the triangle; fore wings with 19–20 antenodal and 12 postnodal nervures; pterostigma yellow, long and narrow, enclosed by brown nervures; sectors of the arculus with a very short stalk; triangle moderate, crossed by two nervures, and followed by four or five rows of cells; one supratriangular nervure; hind wings with the triangle traversed, membranule small, white.

*Hab.* Mexico.

Besides the colour, the very long pterostigma will at once separate this species from *B. foliata.* The frontal tubercle is truncated, with a slight prominence on each side, but not distinctly bifid.

BELONIA LONGIPENNIS.

Long. corp. 53 millim.; exp. al. 108 millim.; long. pter. 8 millim.

*Female.*—Uniform dark brownish red, the abdominal carinæ and the sides of the foliation on the eighth segment of the abdomen black; frontal tubercle distinctly bifid. Wings yellowish hyaline, rather more clouded towards the tips, all the veins blackish; fore wings with 20–21 antenodal and 14–15 postnodal nervures; sectors of the arculus very shortly stalked; triangle moderate, crossed by two nervures, and followed by four rows of cells; three supratriangular nervures; pterostigma brownish yellow between black nervures; hind wings with the triangle traversed, and with one supratriangular nervure, membranule grey, very small.

*Hab.* Cuença.

The largest species, varying a little in its characters from the type of the genus.

PROTORTHEMIS CELEBENSIS. (Plate LIV. fig. 7; head, &c., Plate LVII. figs. 6, 6 *a.*)

Long. corp. 55 millim.; exp. al. 102 millim.; long. pter. 5 millim.

*Male.*—Head: frontal tubercle violet, strongly bifid, vertex inky black, very coarsely pectinated above, smooth and yellow on the lower part of the sides next the eyes, and with a smooth black longitudinal groove, widest in front, back of the head shining black, with a yellow spot behind the occipital triangle, and on each side behind the middle of the eye; lower part of head yellow in front; mandibles black, and the middle third of the labium black. Thorax black above, with a double stripe on the suture of a testaceous yellow, narrower behind, space between the wings dusted with blue; pleura with alternate stripes of testaceous yellow and dark brassy green. Legs black, femora testaceous yellow beneath. Abdomen red (paler beneath, and second segment black, with a pale spot on each side), the last two segments and the anal appendages black, second and third segments carinated, rather broad, with dorsal and lateral carina, the latter distinctly denticulated; upper appendages as long as the ninth and tenth segments, thickened below, and slightly turned up and pointed at the tip; lower appendage not visible. Wings hyaline, with black nervures; fore wings with 21 antenodal and 21 postnodal nervures, the last antenodal nervure continuous; postnodal nervures of the lower space irregular, and a double row beyond the pterostigma; sectors of the arculus stalked, nodal and subnodal sectors undulated, upper sector of triangle regular; triangle moderate, followed by three rows of cells, traversed, and with a supratriangular nervure; subtriangular space consisting of four cells; pterostigma long, very dark brown, between black nervures; hind wings with the triangle traversed, and one supratriangular nervure; membranule very small, white.

*Hab.* Makian.

Allied to *Orthemis coronata*, Brauer.

NESOCRIA WOODFORDI.

Long. corp. 50 millim.; exp. al. 85 millim.; long. pter. 5 millim.

Face yellow, frontal tubercle and upper part of clypeus violet, mandibles and labium black, the sides of the latter broadly yellow, back of head black, with a yellow spot on each side behind the eyes. Thorax black above, the dorsal line nearly concolorous, a short double pale line near the front, a yellow spot within the inner angle of the hinder prothoracic lobes, and the interalary space with the scutellum &c. spotted with yellow; sides of the thorax almost entirely yellow behind the first suture, before it there is a yellow spot on the collar adjoining a larger one on the prothorax, and there are two small ones on an extension of the black colour below the fore wings; portions of the hinder sutures, and the middle of the prosternum, especially before the front legs, are also largely black. Legs black, the basal half of the front femora yellow beneath. Abdomen red, the extreme base, and all beyond the eighth segment, black. Wings hyaline, with fuscous nervures, the lower antenodal subcostal space and the lower basal cell filled up with smoky brown to beyond the arculus.

*Hab.* Alu Island, Solomon Islands.

Possibly allied to *Agrionoptera longitudinalis*, Selys.

LATHRECISTA TERMINALIS.

Long. corp. 40–43 millim.; exp. al. 72 millim.; long. pter. 4 millim.

Face yellow, frontal tubercle and front (except at the sides) steel-blue; mandibles, suture of the labium, and back of the head, black. Thorax rufous above, with a double yellowish dorsal line, the sides yellow, with three oblique steel-blue stripes, the first very thick and broadly Y-shaped, the second simple, and the third Y-shaped above and curved below, where it runs horizontally to the base of the abdomen, the space between the wings above, and also the base of the abdomen, as far as the suture on the third segment in fully coloured specimens, densely pruinose in the male. Abdomen rufous, the ninth and tenth segments (as well as part of the eighth in the female) and anal appendages black; anal appendages of male as long as the ninth segment, those of the second segment not prominent. Wings yellowish hyaline, darkening with age, the tips tinged with rust-colour as far as the base of the pterostigma, which is dark reddish brown between black nervures; fore wings with 17–18 antenodal and 12–13 postnodal nervures; hind wings with 11–13 antenodals and 12–13 postnodals.

*Hab.* Borneo.

Allied to *Agrinoptera simulans*, Selys.

NESOXENIA CINGULATA. (Plate LIII. fig. 8.)

Long. corp. 33 millim.; exp. al. 60 millim.; long. pter. 3 millim.

Head yellow, clypeus, except on the sides, and frontal tubercle greenish blue, the greater part of the mandibles and the suture of the labium blackish; back of the head black, with a double yellow spot behind the occipital triangle, and two yellow spots on each side behind the eyes. Thorax bronzy green above, with a large spot on each shoulder, an oval spot on the median line, a spot on the base of the tegulæ, three spots below the base of the fore wings, and the usual interalary spaces yellow, the base of the scutellum being marked with a black crescent; sides of thorax yellow, with two oblique bronzy-green stripes, trifid above and subbifid below, the spaces enclosed by the first forming the spots already noticed at the base of the fore wings; between these is a detached stripe on the lower part of the mesopleura. Legs black, front femora yellow beneath. Abdomen black, the first segment yellow beneath, the second yellow to beyond the transverse carina, which is black; the basal half of segments 2–6 more or less yellow on the sides, and the dorsal carina is interruptedly marked with yellow; segment 7 with a complete ring on the basal half. Wings hyaline, with black nervures; pterostigma dark brown, nearly black, the lower antenodal subcostal space, and the lower basal cell, a little clouded as far as the first cross nervures.

*Hab.* Alu.

AGRIONOPTERA INSULARIS.

♂. Long. corp. 37 millim.; exp. al. 62 millim.; long. pter. 3 millim.

♀. Long. corp. 41 millim.; exp. al. 70 millim.; long. pter. 4 millim.

*Male.*—Face yellow, upper angle of the clypeus strongly projecting, frontal tubercle and upper surface of clypeus coppery green; labium black, the sides rather broadly yellow; mandible black, back of head black, with a double yellow spot behind the occipital triangle, and a yellow spot behind the middle of each eye. Thorax bronzy black above, a shoulder-spot, two small spots on each side before the base of the wings, an incomplete double stripe on each side of the median line, a spot on the base of the two hinder lobes, and the scutellum and interalary spaces, yellow; sides of thorax yellow, beneath the wings coppery green, the ventral surface darker bronzy green, this colour extending up and down along the sutures, but only continuous behind the first suture; on the ventral surface are one or two more yellow spots. Legs black, the front coxæ and base of the femora yellow beneath. Abdomen red, the base black as far as the carina on the second segment, with a transverse yellow stripe on the first segment, the sutures very narrowly black, the terminal segments, except sometimes a narrow stripe on the base of the eighth, entirely black; segments 3–7 with a rather indistinct blackish dot on each side of the dorsal line just before the suture. Wings more or less clouded hyaline, with dark brown nervures and pterostigma, a little clouded along the lower antenodal subcostal space and the lower basal cell at the base. Wings with 15–16 antenodal and 12–14 postnodal nervures, the first two or three postnodals not continuous; triangle small, more or less oblique, and placed on a level with that of the hind wings or a little beyond, followed by two rows of cells increasing (on one side of one specimen by three cells increasing), no supratriangular nervure and only one cross nervure in the lower basal cell in both fore and hind wings, subtriangular space consisting of two or three cells; hind wings with 13–15 antenodal and 11 postnodal nervures, the first two postnodals not continuous; triangle placed at about one fifth of the distance between the arculus and the end of its lower sector, followed by two rows of cells increasing; membranule very small, whitish.

*Female.*—Similar, but with the pale markings of the pleura dull flesh-colour rather than yellow; the abdomen is of a dull reddish brown, the black markings not being very sharply defined, and more extended on the sutures and along the lateral carinæ; there are sometimes two cross nervures in the lower basal cell of the fore wings, and the traversed triangle is followed indifferently by two or three rows of cells increasing, or by a row of three cells followed by a series of two increasing. In one female the lower sector of the arculus falls on the base of the triangle a little before its extremity.

*Hab.* Solomon Islands, Santa Anna (1 male), and Alu (1 male, 2 females).

Allied to *A. quatuornotata*, Brauer.

CHALCOSTEPHIA FLAVIFRONS.

Long. corp. 35 millim.; exp. al. 62 millim.; long. pter. 4 millim.

*Male.*—Face yellow, upper part of clypeus coppery green, shading into blue on the summit and on the frontal tubercle; tips of mandibles, suture of labium, and back of head black, the latter with about three small yellow spots on each side behind the eyes. Thorax, abdomen, and legs dull black, the thorax with a slight bluish-grey pulverulence, base of the femora with a reddish-brown spot on the inside. Wings of a slightly brownish but very iridescent hyaline, the extreme tips brownish, pterostigma brown, palest in the centre between brown nervures, the upper nervure very thick; membranule very small, blackish, with a white dot in the middle.

*Hab.* Angola.

ANATYA ANOMALA. (Plate LIII. fig. 9; appendages, Plate LVII. fig. 7.)

Long. corp. 32–34 millim.; exp. al. 47–50 millim.; long. pter. 3 millim.

*Male.*—Head yellow, frontal tubercle and middle of the clypeus blue, tips of the mandibles and back of the head above black, and below reddish towards the base; thorax pale greenish blue with irregular blackish or reddish markings above, and to a less extent on the sides; under surface yellow; coxæ with a black spot at the tips above; femora yellow, black above from a little beyond the base; tibiæ and tarsi black; abdomen black, the base banded and spotted with dull pale blue (buff in less mature examples), which is continued on the sides of the third segment beyond the carina as a broad dark stripe reaching nearly to the extremity; this is followed by buff stripes at the sides of the bases of segments 4 and 5, a much shorter and broader one on the sides of segment 6 in the middle, and, lastly, a round spot on each side of segment 7, nearly meeting above. Anal appendages yellow, the upper ones tipped with black. Wings very clear hyaline; pterostigma dark reddish brown between black nervures.

*Female.*—Yellow, the thorax a little varied with reddish; abdomen yellow at the base, and reddish brown beyond the carina of the third segment, spotted with yellow as in the male; femora, tibiæ, and tarsi as in the male; pterostigma yellowish brown.

*Hab.* Brazil.

In one specimen the neuration is very irregular, the last antenodal nervure on the left front wing, on the upper costal space, is nearly continuous with the last nervure in the lower costal space; but on the right wing the last two antenodals are entirely discontinuous, an anomaly of which I have seen but one other instance.

TYRIOBAPTA TORRIDA. (Plate LIV. figs. 5, 6.)

Long. corp. 30–35 millim.; exp. al. 52–64 millim.; long. pter. 3–4 millim.

*Male* (mature).—Head black, clypeus above and frontal tubercle violet-blue, sides and base of labium yellow; thorax and base of abdomen dull reddish brown, the former with a transverse black band before the wings and black stripes on the sutures of the pleura; abdomen otherwise black, with a row of dull blue spots on the sides of segments 3–8 above. Legs testaceous brown nearly to the end of the femora and black beyond. Wings hyaline, pterostigma dark brown; hind wings with a large purplish-brown blotch at the base, with green and purple reflexions, broadest at the anal angle, where it covers rather more than one fourth of the wing.

*Male* (immature).—Thorax and abdomen testaceous brown, the black markings are much more distinct, the transverse band in front of the thorax is connected with and preceded by a black stripe on the median line; the three stripes on the pleura are unconnected with this, but are nearly connected with each other below; the abdomen is black, with the base, and a row of spots on the sides of segments 3–8, testaceous brown; the blotch on the hind wings is light brown, and is confined to the neighbourhood of the anal angle.

*Female.*—Head as in the male; thorax and abdomen testaceous brown, the black markings on the pleura less extended; abdomen with the dorsal carina and sutures black, expanding into dorsal spots and laterally expanded bands on the sutures; wings hyaline, more or less clouded, especially towards the tips, but with no basal blotch on the hind wings.

*Hab.* Borneo.

A very common species.

THERMOCHORIA EQUIVOCATA. (Plate LII. fig. 8.)

Long. corp. 30 millim.; exp. al. 48 millim.; long. pter. 3 millim.

*Male.*—Head, frontal tubercle and clypeus blackish, the latter strongly punctured above, channelled in the middle, and marked with a large horseshoe-shaped spot on each side; back of the head black, the whole face below the clypeus yellow, and the eyes from a little below the occipital triangle broadly bordered behind with yellow, and unspotted; thorax and abdomen black, the pleura, the space between the wings above, and the base of the abdomen pulverulent blue; anal appendages slender, yellow, as long as the ninth segment, the lower appendage nearly as long as the others; appendages of the second segment rather small. Wings rather long and narrow, rounded at the tips, the hind wings not much broader than the fore wings, clear hyaline, with black nervures; pterostigma very dark reddish brown, a stripe of the same colour on the nodus (on the fore wings only), and another stripe, almost black at the base, filling up the lower basal cell from the base to the twelfth antenodal cross nervure on the fore wings, and to the fourth antenodal cross nervure on the hind wings; tips of the wings from one cell beyond the pterostigma edged with rufous; membranule of hind wings very small, white, marked with a blackish dot.

*Hab.* West Africa.

MISAGRIA PARANA. (Plate LII. fig. 9; abdomen &c., Plate LVII. figs. 8, 8 *a*.)

Long. corp. 37 millim.; exp. al. 62 millim.; long. pter. 3½ millim.

*Male.*—Head: face yellow, mandibles and suture of the labium blackish, frontal tubercle reddish, summit of the clypeus bright blue, back of the head reddish, the eyes bordered behind with yellow; thorax rufous brown above, with a longitudinal greenish line on the middle, followed by green spots between the wings; sides green, with reddish-brown bands on the sutures. Abdomen reddish brown, with an interrupted greenish line on the dorsal suture, extending to the middle of the seventh segment; sides of the basal segments spotted with yellow, the tips of all the segments beyond the third, and the greater part of the sixth and following segments above, black. Legs reddish brown, with a yellowish line on the femora beneath. Wings hyaline, the extreme base a little marked with yellowish, and the extreme tips a little clouded; pterostigma dark brown.

*Hab.* Para.

Pseudomacromia torrida. (Plate LII. fig. 7.)

Long. corp. 58 millim.; exp. al. 100 millim.; long. pter. 5 millim.

*Male.*—Head violet above and testaceous beneath; nasus, rhinarium, and labium (except at the basal suture, which is testaceous, and the sides at the base, which are rather broadly yellow) black; occipital triangle testaceous yellow. Thorax brownish testaceous, prothorax with a broad brassy-green band on each side above, the pleura more inclining to yellow, with three rather broad and somewhat irregular brassy-green stripes on each side. Legs black; coxæ, trochanters, and base of femora testaceous above. Abdomen black, with a large testaceous spot on the sides of all the segments, except the tenth; the base of the third and fourth, and the lateral carinæ on the third, are also narrowly of the same colour; the dorsal carina is marked with a testaceous spot in the middle of segments 3–8, and the carina itself shows an interrupted line of the same colour from segments 4–9; on segment 7 the central spot is united with those on the sides by a transverse band. Wings hyaline, slightly inclining to yellowish; neuration black, pterostigma dark brown between black nervures; membranule of all the wings white; fore wings with 11–12 antenodal and 8 postnodal nervures, subtriangular space consisting of four cells. Anal appendages thick, short, black, about as long as the ninth segment, acuminate, the lower one as long as the others, those of the second segment not conspicuous.

*Female* with the brassy-green markings of the thorax replaced with a violet iridescence over brown. Wings yellowish hyaline, three subtriangular cells. Abdomen with the dorsal carina from the third to the ninth segment much more continuous, the sutures narrowly yellow as far as that between the fifth and sixth segments, and the lateral spots more extended, connected by a line across the back on the middle of segments 5–7. Appendages straight, pointed, nearly as long as in the male, but more slender.

*Hab.* Sierra Leone.

Another specimen, from Abyssinia, is rather smaller and darker; there are but seven postnodal nervures on the fore wings, and the markings on the sides of the second and third segments of the abdomen are greenish, and the subtriangular space consists of three cells only. Another dark specimen, from West Africa, has only three subtriangular cells and seven postnodal nervures on the fore wings, in which, too, the upper triangle is open on one side. There is also another from Natal, nearly agreeing with the type, but with three subtriangular cells. Another male, apparently of the same species, from Teneriffe, shows extreme anomalies of neuration. The wings are strongly clouded, and the last antenodal and first postnodal nervures are not continuous; in all the other specimens the first two postnodal nervures are not continuous. On the fore wings there are three cells in the subtriangular space on the left side and four on the right, and on the right side is one supratriangnlar nervure. On the hind wings the triangles are traversed, and on the left side there are two cross nervures in the lower basal cell, instead of one.

Notwithstanding these differences, I am not at present inclined to treat any of these specimens (all of which are males, the only female being described above) as specifically distinct.

CANNACRIA BATESII. (Plate LIII. fig. 1; appendages, Plate LVII. fig. 9.)

Long. corp. 48 millim.; exp. al. 80 millim.; long. pter. 4 millim.

Head and thorax yellowish (probably green when alive); tips of mandibles, suture of labium, and legs black. Abdomen rufo-testaceous, with a black dorsal band, commencing at the end of the third segment, and covering the middle of segments 4–9, and widened at the end of each segment to cover the whole width. Wings brownish hyaline, more or less tinged with smoky yellow, especially towards the costa; pterostigma yellow, below slender black nervures.

*Hab.* Amazons.

CANNAPHILA INSULARIS.

Long. corp. 37 millim.; exp. al. 67 millim.; long. pter. 4 millim.

*Female.*—Face yellow, frontal tubercle and middle of clypeus violet; jaws, a large square spot at the base of the labium, and the back of the head black, the latter with a double yellow spot behind the occipital triangle, three spots on each side behind the eyes, and a yellow crescent at the base. Thorax chocolate-red, shading into coppery green at the sides, with slender yellow lines on the median suture, on each shoulder (interrupted), and slightly on the hinder sutures; pleura yellow, with wide coppery-green bands, interrupted by yellow lines on the lower part of the sutures; the space between the wings spotted with yellow, space behind the legs marked with large yellow spots, divided and separated by chocolate-red. Legs black, front femora yellow beneath, and middle femora slightly lined with yellow. Abdomen brownish red, a little yellowish at base; the sutures, lateral carinæ, and ninth segment, except a spot on each side, black. Wings hyaline, slightly tinged with yellowish at the base, and brownish at the tips; pterostigma reddish brown, between black nervures.

The male differs little, except in being pulverulent blue.

*Hab.* Haiti (types in British Museum); Jamaica (Dublin Museum).

ACISOMA (?) TRIFIDA.

Long. corp. 26 millim.; exp. al. 47 millim.; long. pter. 3 millim.

*Male.*—Head black; the upper part of the front, the nasus, a large spot on each side of the mentum, the base of the mandibles, and two spots on each side behind the eyes whitish or yellowish. Thorax black; the pleura with numerous small irregular yellow spots and stripes. Abdomen with lateral carinæ on segments 2–4, broad, but not inflated, as far as segment 6, and then suddenly contracted, segment 1 black, with a small yellow spot on the middle of the sides, second segment black, with a large yellow spot on the lower part of the sides, above the appendages, which are not conspicuous, segment 3 with a pale band, broader on the back, in front of the carina, and a large oval spot on the back behind, segment 4 with a similar band before the carina, the upper part behind it entirely pale, except a black spot on each side behind the carina, segments 5 and 6 are pale above, but there is a black longitudinal spot on the suture of the 4th and 5th segments, towards the end of segment 5 a black stripe commences, and gradually broadens till it covers the whole extremity of segment 6; the remaining segments are entirely black, as well as the under surface below the lateral carinæ, except for the spots on the two first segments, the basal bands on the 3rd and 4th, and a large spot on each side of the 5th and 6th: anal appendages slender, pointed, as long as the ninth segment, black, yellow above, except at the tips; lower appendage rather shorter than the others, black, raised at the tip. Legs black, slender; tibiæ with double rows of slender spines. Wings clear hyaline, the extreme base of the hind wings smoky brown; pterostigma yellow, between black nervures; fore wings with 9 antenodal and 8 postnodal nervures, the last antenodal and the first two postnodals not continuous; triangle moderate, open, followed by two rows of cells; lower subtriangular space consisting of three cells (one in all the other species, except the typical *A. ascalaphoides*, in which it is divided by a curved line as in *Diplacina*).

*Hab.* Congo.

TETRATHEMIS HYALINA. (Neuration, Plate LVI. fig. 8.)

Long. corp. 26 millim.; exp. al. 45 millim.; long. pter. 2 millim.

*Male.*—Black; head with the front and vertex coppery green; face yellow, the rhinarium reddish; back of the head shining black, with a transverse yellow spot above the neck. Thorax coppery green above; collar and some small spots before and between the wings yellow; the sides and under surface yellow, with two broad dark cupreous bands (almost black in some lights) on the sutures. Legs black; coxæ and under surface of the femora yellow; behind the legs is a thick, short, transverse black stripe, followed by a crescent, behind which is again a black spot. Abdomen with the sides of segments 1–6 spotted with yellow, the spots constantly diminishing in size, and a small longitudinal yellow spot on the back of segment 7, segment 2 thickened; anal appendages rather longer and more pointed than in *T. flavescens.* Wings clear hyaline, very slightly tinged with yellow in some of the cells at the base; pterostigma black, lower basal cell with 1 cross nervure on the fore wings and 2 on the hind wings; fore wings with 8 antenodal and 5–6 postnodal nervures, the first postnodal not continuous; hind wings with 7 antenodal and 5–6 postnodal nervures, the first postnodal not continuous.

*Hab.* Borneo.

TETRATHEMIS TRISTRIGATA.

Long. corp. 25 millim.; exp. al. 46 millim.; long. pter. $2\frac{1}{4}$ millim.

*Female.*—Black; head with the frontal tubercle and front green; upper edge of the nasus black, a yellow band covering the lower part and the rhinarium; lower mouth-parts dark reddish brown; sides of the labium yellow; back of the head black, with a transverse yellow spot above the neck. Thorax, legs, and abdomen coloured nearly as in *T. hyalina*; but the yellow at the base of the femora is less extended, the slender bristles on the tibiæ are much longer, and there is a broad belt, interrupted beneath, on the base of the seventh segment of the abdomen. Wings iridescent yellowish hyaline, the shade strongest between the nodus and the tips; pterostigma rather large, dark brown; all the wings with three cross nervures in the lower basal cell; fore wings with 9 antenodal and 6 postnodal nervures; hind wings with 7–8 antenodals and 6 postnodals, the first or first and second postnodals on all the wings not continuous.

*Hab.* Gilolo.

TETRATHEMIS FLAVESCENS. (Plate LII. fig. 4.)

Long. corp. 22–24 millim.; exp. al. 34–38 millim.; long. pter. 2 millim.

*Male.*—Head with the front and frontal tubercle steel-blue; face testaceous; the labrum, mandibles, suture of the labium, and back of the head black. Thorax brassy green above collar, two crescents before the wings and the sides ochreous-red, a broad brassy-green stripe descending just before the first pair of wings nearly to the legs, and on the suture at the base of the hind wings another stripe (shining black) descending, meeting below behind the legs. Abdomen with the second segment inflated, black, the sides of the first two segments, the base of the second above, and two smaller spots on the sides of the third reddish. Legs black; coxæ and under surface of the front femora ochreous or reddish. Anal appendages short, about as long as the ninth segment, the upper ones truncated, not longer than the lower, those of the second segment not very prominent. Wings hyaline; fore wings tinged with yellow to beyond the nodus, and hind wings to the pterostigma, which is blackish brown, between black nervures; fore wings with two, hind wings with four cross nervures in the lower basal cell; fore wings with 7 antenodal and 5–6 postnodal nervures, the first postnodal not continuous; hind wings with 6 antenodal and 5–6 postnodal nervures, the first postnodal not continuous.

*Hab.* Sarawak.

NANNOTHEMIS SYLVIA.

Long. corp. 19 millim.; exp. al. 36 millim.; long. pter. $1\frac{1}{2}$ millim.

*Female.*—Reddish brown; face yellow, the frontal tubercle and upper part of the front blue; back of the head black, with two yellow dots behind the occipital triangle.

Thorax reddish brown above and in front, with greenish spots between the wings, and two broad pale-green shoulder-stripes, with two broad black bands beneath the wings (slightly divided above), and a short black stripe on the space between. Legs black, long, slender, with slender bristles. Abdomen reddish brown above, with rather indistinct greenish spots on the sides; along the lateral carina runs a broad black band, throwing up black rings on the sutures; the ninth segment is almost entirely black, and the eighth is marked with an oval yellow spot on each side, more distinct than the green ones on the preceding segments. Wings hyaline; pterostigma oblong, yellow, between black nervures; fore wings with 7 antenodal and 5 postnodal nervures, the first postnodal not continuous; hind wings with 5 of each, the first postnodal not continuous; triangle of the fore wings nearly regular, only its outer and upper angle being truncated.

*Hab.* Ceara.

NANNODYTHEMIS AUSTRALIS, Brauer. (Plate LII. fig. 5, ♂.)

*Nannophya australis*, Brauer, Reise d. Novara, Neur. p. 99 (1866). Male only.

Long. corp. 20 millim.; exp. al. 30 millim.

*Female.*—Head yellow; frontal triangle and back of the head shining black; two continuous yellow spots at the back of the occipital triangle, and about four yellow spots on each side behind the eye. Thorax black above, with a sulphur-yellow stripe on each side; the sides yellow, with a black stripe above the middle pair of legs, and the upper part of the suture behind slightly marked with black. Legs black, the coxæ and a short stripe at the base of the femora yellow. Abdomen tawny yellow, with all the sutures and carinæ broadly black.

*Hab.* Australia (Moreton Bay).

FYLGIA AMAZONICA. (Plate LI. fig. 2, adult male; fig. 3, immature male.)

Long. corp. 21 millim.; exp. al. 38 millim.; long. pter. 2 millim.

*Adult male.*—Head reddish testaceous. Thorax black, the sutures and legs beneath reddish. Abdomen with segments 1–5 black, the remainder red (or by abrasion golden yellow). Wings clouded hyaline, a little smoky at the base; pterostigma black. In the immature male the sides of the thorax and the base of the abdomen are more inclining to reddish, and the wings are clear hyaline, except at the base; in the still younger male and in the female the insect is yellow, with reddish-brown stripes in the middle of the thorax, obliquely on each shoulder and on the middle and sides of the abdomen, and the wings are clear hyaline.

*Hab.* Para.

I suspect that this insect is *Nannophya semiaurea*, Hag. MS.; but as this name is inappropriate, being apparently founded on abraded specimens, I have not thought it necessary to adopt it, as no description has been published.

Fylla exigua. (Plate LII. fig. 6.)

? *Nannophya exigua,* Hag. MS.

Long. corp. 16 millim.; exp. al. 24–28 millim.; long. pter. 1 millim.

Head testaceous above; the lower mouth-parts and the back of the head, except the occipital triangle, entirely black. Thorax black above and below, the sides testaceous, with a broad black perpendicular stripe below the front wings, and a small black spot before and behind it; the testaceous colour meets on the back in front of the wings, and in one female specimen it is more extended on the back of the thorax. Legs black. Abdomen (except the first segment, which is black) bright scarlet in the male, but frequently discoloured; in the female the abdomen is brown, with black carinæ and sutures, and the last three segments entirely black, and in the most highly-coloured specimen the space behind the carinæ on the 2nd and 3rd segments and a spot on each side of the 5th and 6th segments in front are whitish. Wings hyaline, with black nervures; pterostigma brown, between thick black nervures, base of the wings tinged with yellow as far as the triangles, in the female this is much fainter, and is confined to the hind wings; membranule very small, whitish.

*Hab.* China, Borneo (very common), Bouru, Gilolo, and Morty.

## EXPLANATION OF THE PLATES.

All the figures are original, and have been drawn on stone from specimens in the collection of the British Museum by Messrs. Green and Mintern, under the personal supervision of the author. The figures on the first four Plates are of the natural size; those on the last three, representing neuration and details, are twice the natural size.

It is to be regretted that it has been found impossible, without very large additional outlay, to give the exact colouring of the wing-veins, for which the descriptions of the species themselves must be consulted.

### PLATE LI.

Fig. 1. *Tramea darwinii,* ♀, p. 315.
Fig. 2. *Fylgia amazonica,* ♂, p. 344.
Fig. 3. *Fylgia amazonica,* ♂ (immature), p. 344.
Fig. 4. *Antidythemis trameiformis,* ♂, p. 315.
Fig. 5. *Rhyothemis apicalis,* ♀, p. 319.
Fig. 6. *Rhyothemis cuprina,* ♀, p. 320.
Fig. 7. *Perithemis intensa,* ♂, p. 326.
Fig. 8. *Perithemis bella,* ♂, p. 324.
Fig. 9. *Perithemis bella,* ♀, p. 324.
Fig. 10. *Hydrobasileus vittatus,* ♂, p. 314.

## PLATE LII.

Fig. 1. *Pseudothemis zonata*, ♂, p. 270.
Fig. 2. *Celithemis fasciata*, ♂, p. 326.
Fig. 3. *Miathyria pusilla*, ♂, p. 318.
Fig. 4. *Tetrathemis flavescens*, ♂, p. 343.
Fig. 5. *Nannodythemis australis*, ♂, p. 344.
Fig. 6. *Fylla exigua*, ♂, p. 345.
Fig. 7. *Pseudomacromia torrida*, ♂, p. 340.
Fig. 8. *Thermochoria equivocata*, ♂, p. 339.
Fig. 9. *Misagria parana*, ♂, p. 339.
Fig. 10. *Rhodopygia cardinalis*, ♂, p. 299.

## PLATE LIII.

Fig. 1. *Cannacria batesii*, ♂, p. 341.
Fig. 2. *Trithemis* (?) *attenuata*, ♂, p. 328.
Fig. 3. *Æthriamanta brevipennis*, ♂, p. 283.
Fig. 4. *Untamo apicalis*, ♀, p. 331.
Fig. 5. *Lyriothemis braueri*, ♀, p. 332.
Fig. 6. *Deielia fasciata*, ♀, p. 330.
Fig. 7. *Pseudoleon superbus*, ♂, p. 274.
Fig. 8. *Nesoxenia cingulata*, ♀, p. 336.
Fig. 9. *Anatya anomala*, ♂, p. 338.

## PLATE LIV.

Fig. 1. *Orthemis flavopicta*, ♂, p. 332.
Fig. 2. *Neurothemis affinis*, ♂, p. 323.
Fig. 3. *Macrothemis hemichlora*, ♀, p. 298.
Fig. 4. *Belonia foliata*, ♀, p. 333.
Fig. 5. *Tyriobapta torrida*, ♂, p. 338.
Fig. 6. *Tyriobapta torrida*, ♀, p. 338.
Fig. 7. *Protorthemis celebensis*, ♂, p. 334.
Fig. 8. *Neurothemis disparilis*, ♂, p. 322.
Fig. 9. *Brachydiplax indica*, ♀, p. 329.

## PLATE LV.

(Neuration.)

Fig. 1. *Libellula depressa*, ♀, p. 284.
Fig. 2. *Neurothemis fulvia*, ♂, p. 271.
Fig. 3. *Erythemis peruviana*, ♂, p. 305.

Fig. 4. *Sympetrum pallidinervis*, ♂, p. 327.
Fig. 5. *Orthetrum sabina*, ♂, p. 302.
Fig. 6. *Orthetrum cœrulescens*, ♂, p. 302.

## PLATE LVI.

(Neuration.)

Fig. 1. *Microthemis duivenbodi*, ♂, p. 280.
Fig. 2. *Orchithemis pulcherrima*, ♂, p. 307.
Fig. 3. *Agrionoptera 4-notata*, ♂, p. 292.
Fig. 4. *Raphismia bispina*, ♀, p. 293.
Fig. 5. *Acisoma panorpoides* (?), ♂, p. 309.
Fig. 6. *Palpopleura jucunda*, ♂, p. 273.
Fig. 7. *Nannophya pygmæa*, ♀, p. 313.
Fig. 8. *Tetrathemis hyalina*, ♂, p. 342.

## PLATE LVII.

(Neuration and details.)

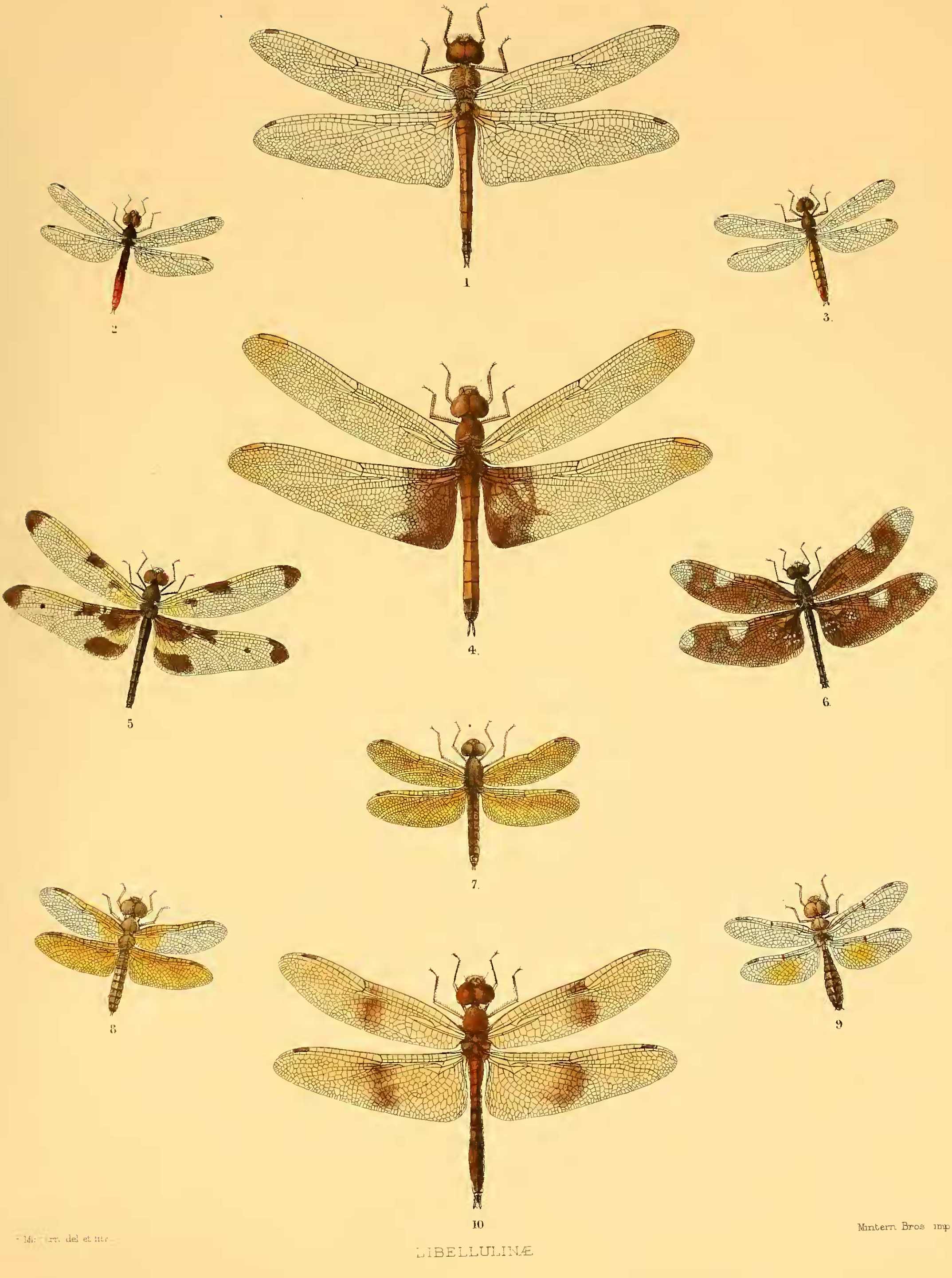
Fig. 1. *Lepthemis vesiculosa*, ♀ (neuration), p. 303.
Fig. 2. *Holotania axilena*, ♂ (neuration), p. 289.
Fig. 3. *Orthemis ferruginea*, ♂ (neuration): 3 *a*, hind leg; 3 *b*, claws; 3 *c*, anal appendages, p. 286.
Fig. 4. *Mesothemis simplicicollis*, ♀ (neuration): 4 *a*, hind leg, p. 303.
Fig. 5. *Orthemis flavopicta*, ♂ (anal appendages), p. 332.
Fig. 6. *Protorthemis celebensis*, ♂ (head): 6 *a*, frontal tubercle, p. 334.
Fig. 7. *Anatya anomala*, ♂ (anal appendages), p. 338.
Fig. 8. *Misagria parana* (side view): 8 *a*, abdominal appendages; *a*, anal appendages, viewed from above; *b*, lower appendage; *c*, lower part of appendages of second segment, viewed from behind, p. 339.
Fig. 9. *Cannacria batesii*, ♂ (anal appendages), p. 341.
Fig. 10. *Zyxomma petiolatum*, ♂ (head), p. 301.
Fig. 11. *Macrothemis hemichlora*, ♀ (claws), p. 298.

### Explanation of Neuration (see pp. 252–255).

(Applicable to all the figures of wings on Plates LV.–LVII.)

*a.* Nodus.
*a–m.* Nodal cross nervure.
*b.* Pterostigma.
*c–d.* Internodal radius, or costal nervure.
*e.* Antenodal cross nervures.

*f.* Last antenodal cross nervure.
*g.* Postnodal cross nervures.
*c–h.* Principal radius, or subcostal nervure.
*k.* Upper basal cell.
*kk.* Lower basal cell.
*l.* Arculus.
*l–s.* Upper sector of the arculus.
*l–t.* Lower sector of the arculus.
*m–n.* Subcostal radius.
*m–o.* Nodal sector.
*m–p.* Subnodal sector.
*q.* Supratriangular nervures.
*r.* Triangle.
*u.* Posttriangular cells.
*v–w.* Upper sector of the triangle.
*v–ww.* Lower sector of the triangle.
*x.* Subtriangular space.
*y.* Subbasal sectors.
*z.* Membranule.

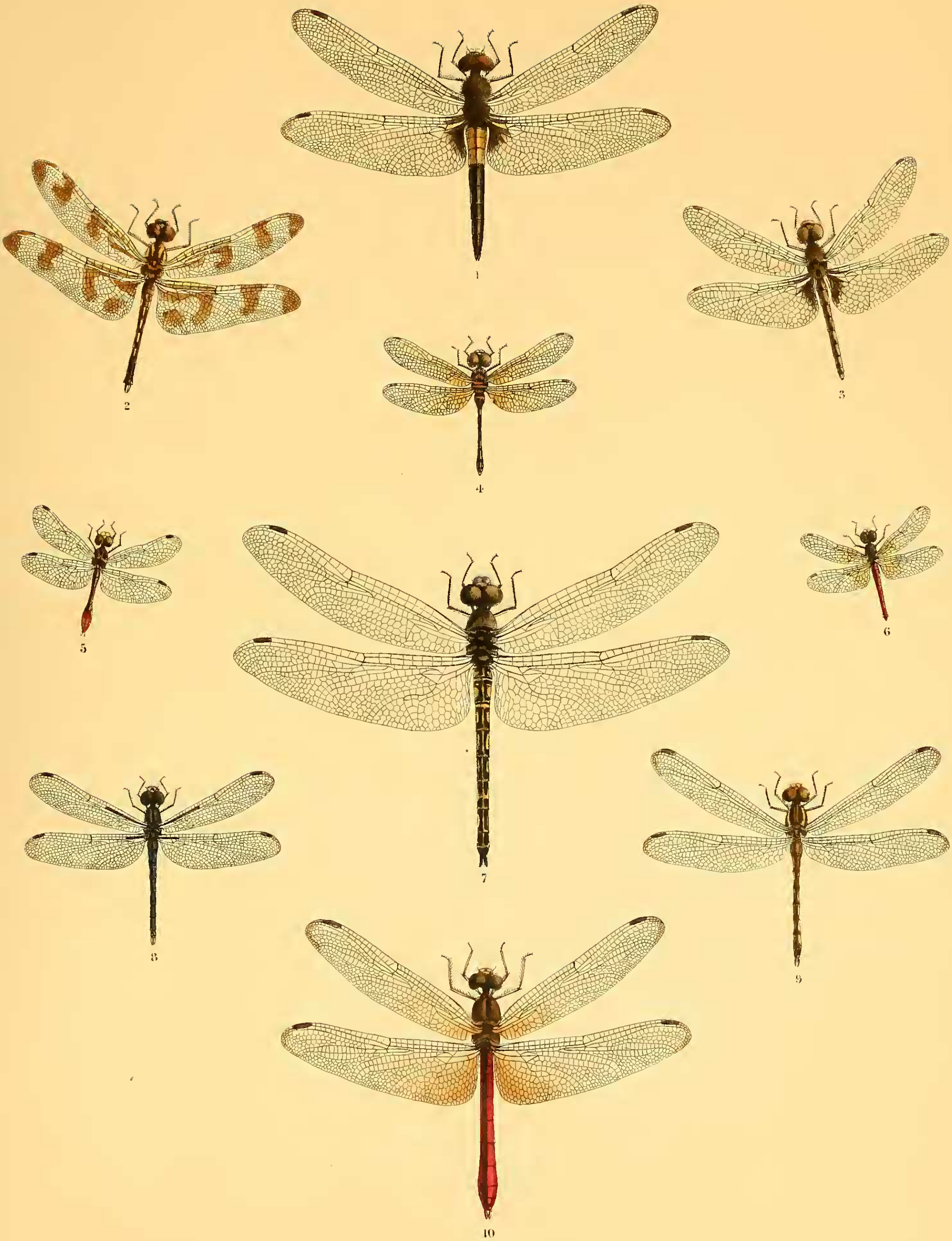


Mintern del et lith.

Mintern Bros imp.

LIBELLULINÆ

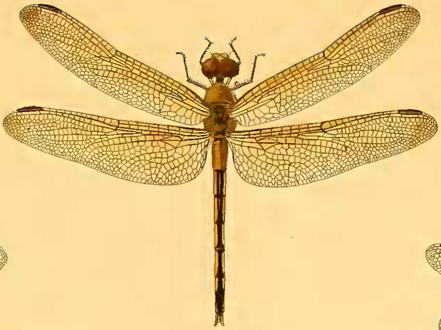
Trans. Zool. Soc. Vol. XII. Pl. XI



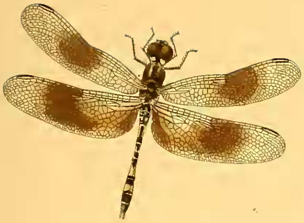
R. Mintern del. et lith.

Mintern Bros. imp.

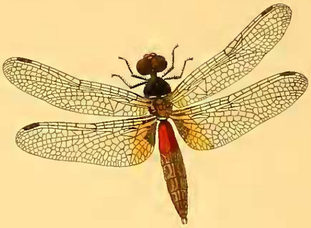
LIBELLULINÆ.



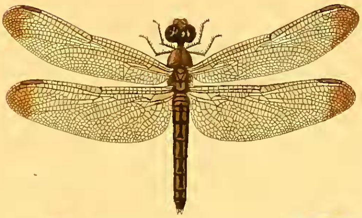
1.



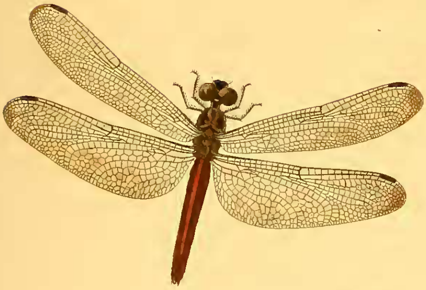
2



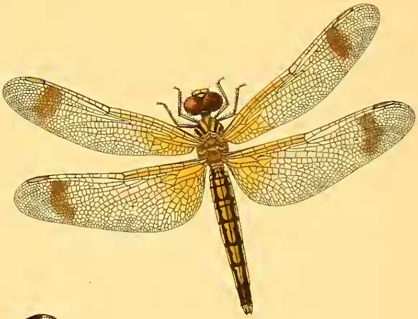
3



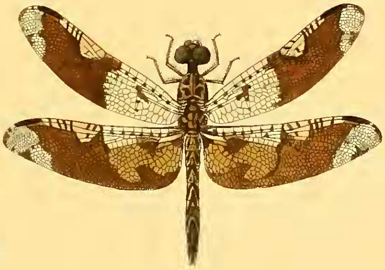
4



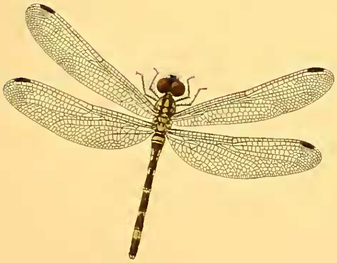
5.



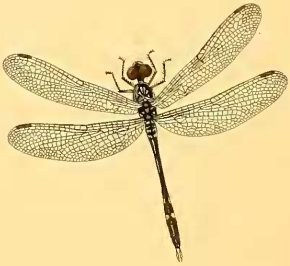
6



7.



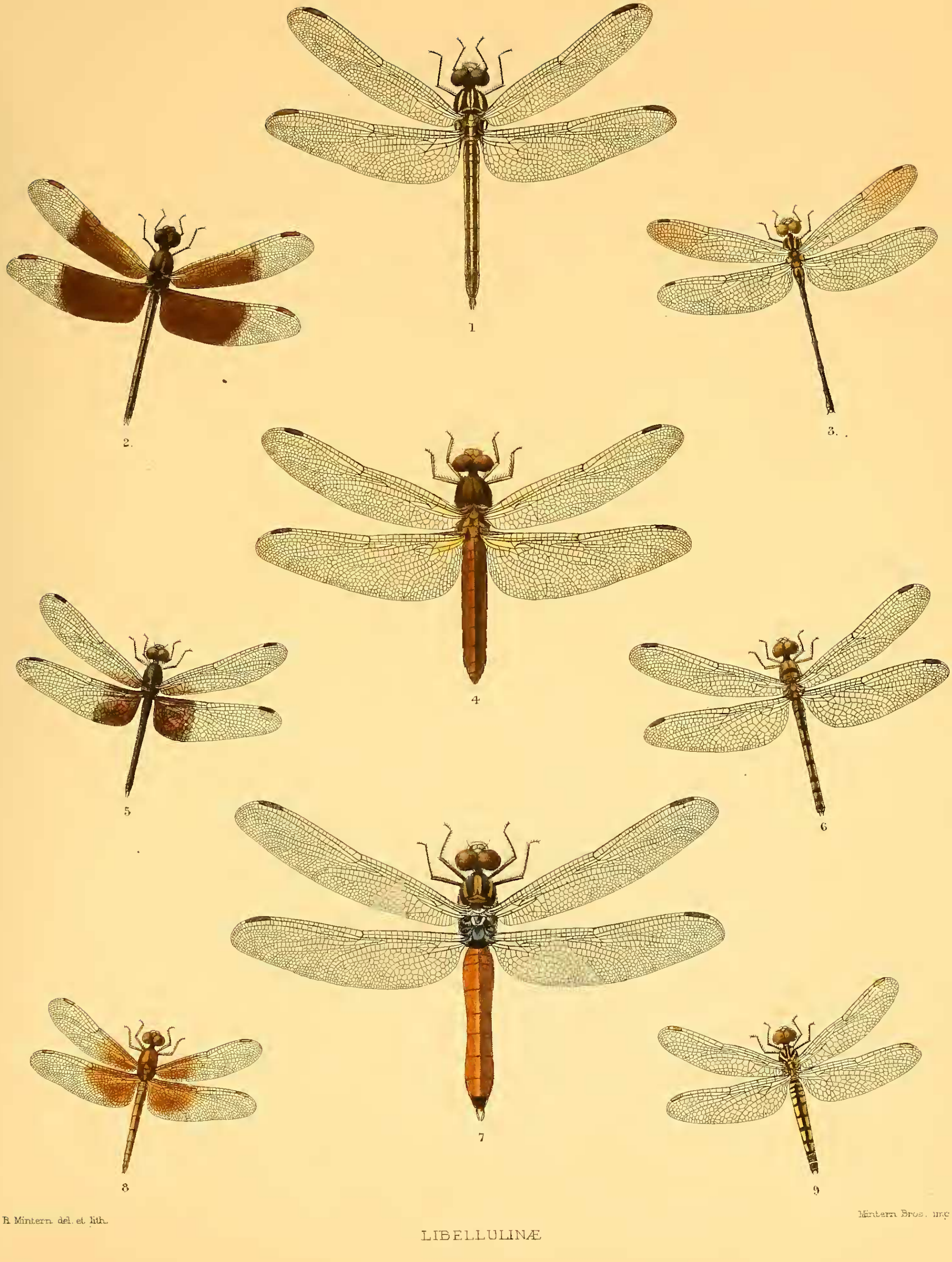
8.



9

F. Mintern del et lith.
Mintern Bros. imp

LIBELLULINÆ

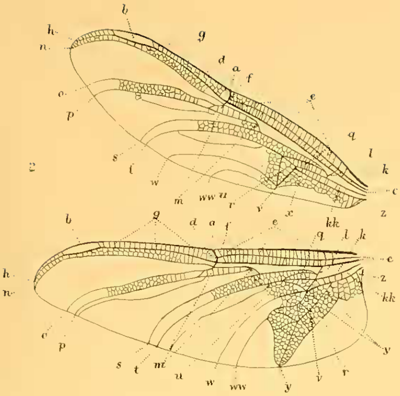


R. Mintern del. et lith.

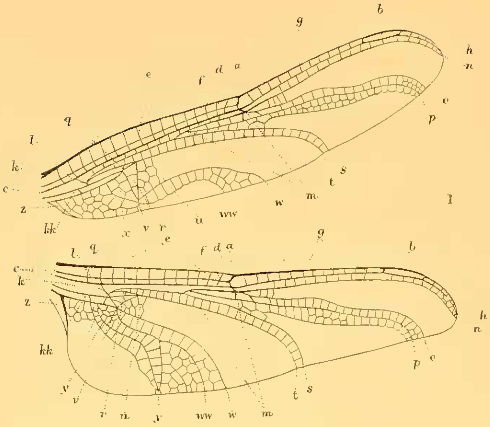
Mintern Bros. imp.

LIBELLULINÆ

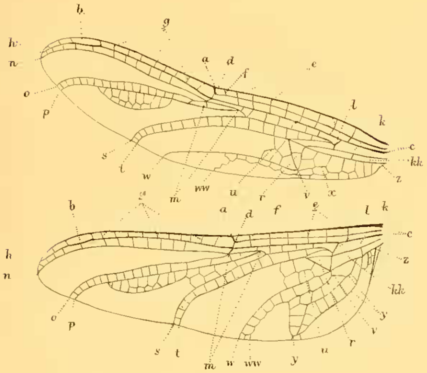
2



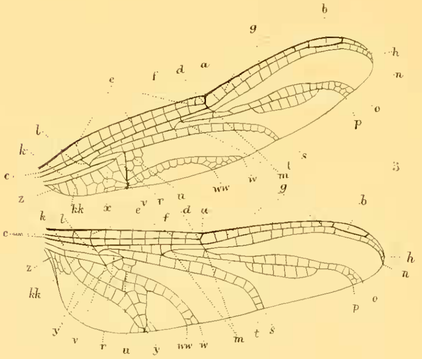
1



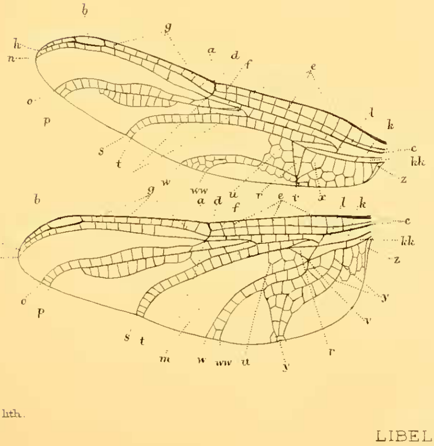
4



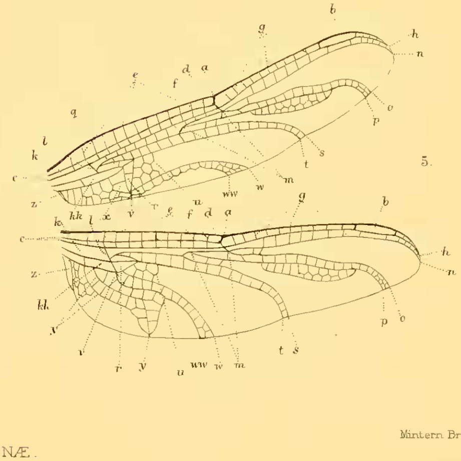
3



6



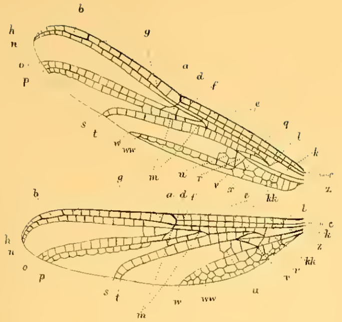
5.



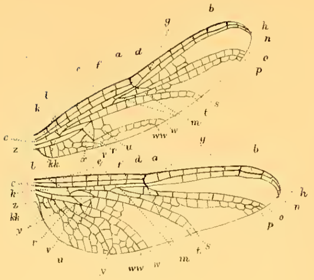
R. Mintern del. et lith.

LIBELLULINÆ.

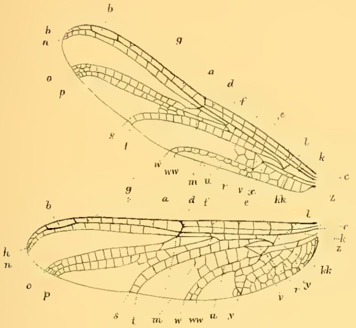
Mintern Bros. imp.



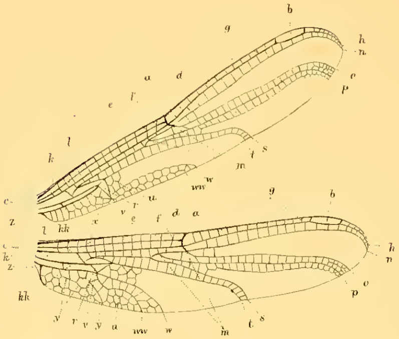
2.



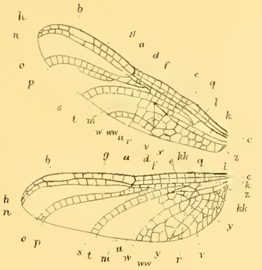
1



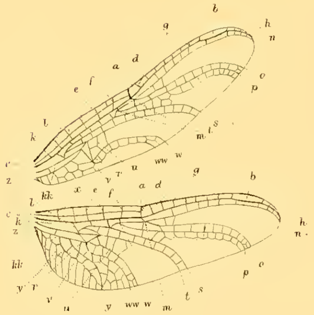
4.



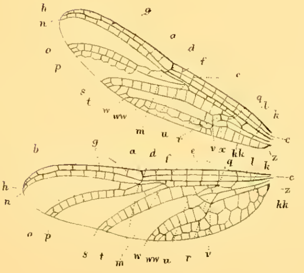
3.



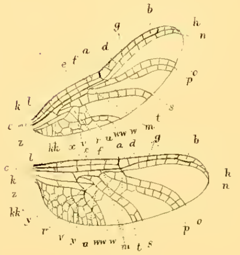
6



5.



8.

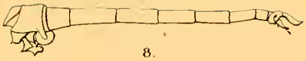


7

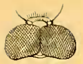
R Mintern del et lith.

LIBELLULINÆ.

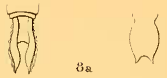
Mintern Bros imp.



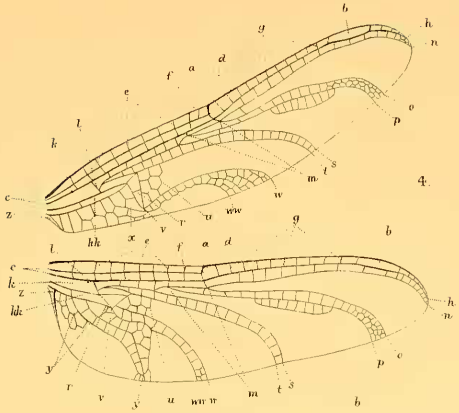
8.

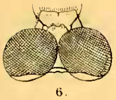


10.

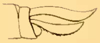


8a



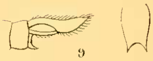


6.

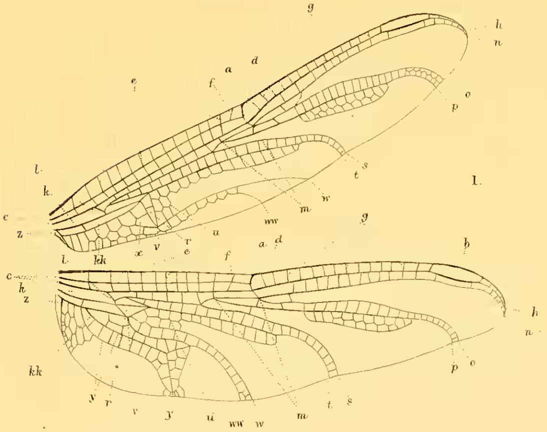


3c.

6a.

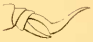


9

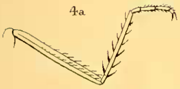


11.

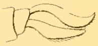
3b



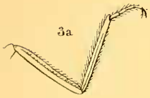
7.



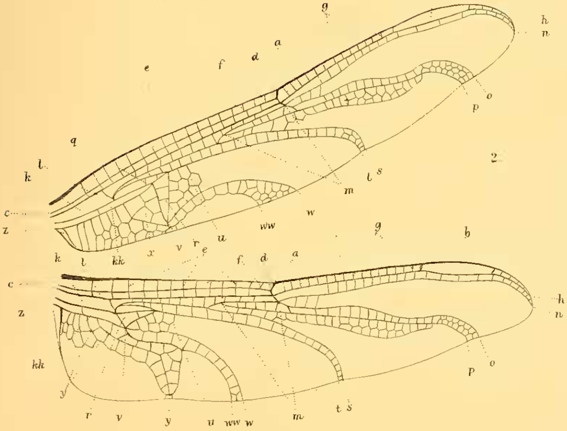
4a

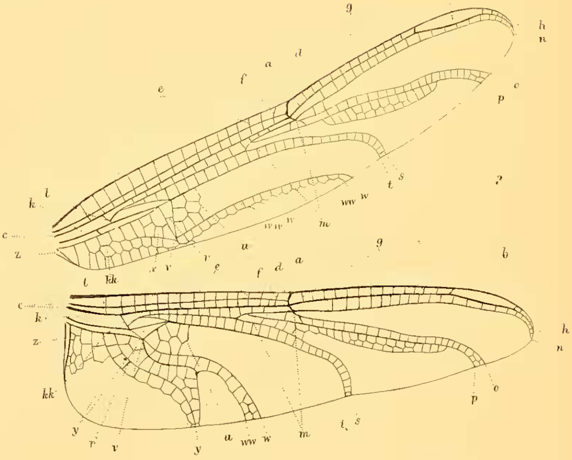


5.



3a





R. Mintern del. et lith.

Mintern Bros. imp

LIBELLULINÆ.